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SOIL CONSERVATION

HEARINGS

BEFORE THE

SUBCOMMITTEE ON ENVIRONMENT, SOIL
CONSERVATION, AND FORESTRY

OF THE

COMMITTEE ON AGRICULTURE,
NUTRITION, AND FORESTRY
UNITED STATES SENATE

NINETY-SIXTH CONGRESS

SECOND SESSION

AUGUST 13, 1980—WATERLOO, IOWA
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SOIL CONSERVATION

WEDNESDAY, AUGUST 13, 1980

U.S. SENATE,
SUBCOMMITTEE ON ENVIRONMENT, SOIL
CONSERVATION, AND FORESTRY OF THE
COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY,
Waterloo, Iowa.

The subcommittee met, pursuant to notice, at the Hawkeye Center, Hawkeye Institute of Technology, Hon. Roger W. Jepsen, presiding.

Present: Senators Jepsen and Boschwitz.

STATEMENT OF HON. ROGER W. JEPSEN, A U.S. SENATOR FROM IOWA

Senator JEPSEN. The subcommittee hearing on soil conservation will please come to order.

I'd like to welcome all of you to the 1st day of 3 days of hearings held by the Subcommittee on Environment, Soil Conservation, and Forestry to discuss soil conservation. Prior to calling the first witness, let me take a few moments to introduce my colleague and the staff members at the table and to outline briefly why these hearings are being conducted and the type of hearing record it is hoped they will produce.

It's an honor to introduce Senator Rudy Boschwitz on my immediate left, Mr. Plywood Minnesota, who sits on the Agriculture Committee with me. Senator Boschwitz is most interested in all agricultural matters and in soil conservation. Thanks for coming and welcome to Iowa.

On my far right is Susan Snyder-Smith. Susan is a legislative assistant on my staff and will be doing the research on the soil conservation area. She grew up on a farm in Northwest Ohio near the town of West Unity.

To my immediate right is Mac McCarthy. He's a professional staff member of the Senate Agriculture Committee. His hometown is Baton Rouge, La.

During the 1970's, our Nation began to focus more intently on the serious problem of conserving our soil and water resources. In the State of Iowa and other Midwestern States, this focus is especially intense. This is due to the fact that the problems of soil conservation, in particular, represent a threat to the primary form of subsistence underlying our heritage, our economic strength, our firmly held family values, and the future of the most productive segment of our national economy—agriculture.

READEX FICHE

Concern about soil conservation can be found throughout our citizenry, and I could think of no better place to begin congressional review of soil conservation programs and practices than right here in Iowa. I'm especially pleased that the hearings are being held here where I was born and raised, just west of Cedar Falls on the Jepsen family farm where we do practice soil conservation. We will be going out there to review that later on today.

Next year, Congress will undertake a lengthy evaluation of basic agricultural programs, in preparation for consideration of a general farm bill. I do not feel that such an effort will be complete unless we review our soil conservation programs and the assistance they seek to provide. I personally guarantee that soil conservation programs will receive top priority in the Senate Agriculture Committee hearings in 1981.

Therefore, I have requested the 3 days of soil conservation hearings in Iowa, and trust they will serve as a suitable prelude and foundation upon which to build a thorough examination of the Government's soil conservation efforts. I want this dialog to continue—in Congress and elsewhere—but I feel it must begin here where this subject is so important. In order for Congress to tread the right path, it must first receive proper direction. It is essential that we in the Senate and our counterparts in the House of Representatives learn more about what farmers and soil conservationists are doing at the local level. Simply put, we need to find out what works and what doesn't. It is the process we should follow to keep informed, and we shall continue this grassroots procedure as we develop the U.S. Government role in conservation activity.

I am here to listen, here to listen and learn. Your testimony and your suggestions and comments will prove invaluable to a proper understanding of our conservation needs to better protect our soil resource. Rather than force feed you a diet of Government proposals that you don't want, or can't afford, I prefer to ask you to speak out and share with this subcommittee what your ideas are and how your objectives can be realized. To help achieve this end, we have assembled a representative group of witnesses for the three hearings, and look forward to their presentations.

Armed with a comprehensive hearing record illustrating what has been successful at the local level, and indicating what more needs to be accomplished, this subcommittee can better tackle the 32 existing conservation programs within USDA in order to provide necessary improvements. We also need to know where and when not to tinker with effective practices. The old adage of "don't fix it if it isn't broken" certainly applies here. Iowa can provide, and in many ways has already provided, the example for others to follow.

Please be assured that your messages and statements will be recorded and taken back to Washington and published for committee and general public use. Hopefully, the results will be tangible. I much prefer shipping your words and proposals out of State, than I do our fertile Iowa topsoil that seems to be exported right along with our corn in many cases. We need the cumulative testimony from you to make our case for soil conservation convincing and compelling enough to get the support of the Congress for needed legislation. The only thing more effective than your testimony would be a dramatic, real-life situation similar to the one that occurred at the birth of the Soil Conservation Service.

It was on April 2, 1935; the afternoon sky suddenly darkened over Washington, D.C., as a swirling cloud of dust blew in from 2,000 miles inland. For Hugh Bennett, who was testifying before the Senate when the storm appeared, the disaster of the Plains was a tragic vindication of his repeated warnings about soil erosion.

This event brought so vividly to mind our earlier failings with respect to soil conservation. Hugh Bennett, then the head of the USDA's Bureau of Soils, had to wait for this devastating act of nature in order to convince the politicians and bureaucrats that a permanent soil conservation program was needed. The eastern city dwellers could only stand the grit in their teeth for 25 days, because that's how long it took them to establish the Soil Conservation Service at that time. When Congress then directed the Secretary of Agriculture to create the Soil Conservation Service, it was done the very same day.

I don't think we can effect changes that quickly nowadays. The problem, however, has not lessened at all and cannot be ignored. We must come to grips with the future now in order to have one. These hearings are, in my opinion, a very good start.

We have a full schedule of witnesses today, and due to this fact I ask that all oral statements be limited to a maximum of 10 minutes.

You may have your statement placed in the record rather than reading it in its entirety if you wish. You may want to summarize and discuss certain points off the cuff.

I know that everyone will attempt to adhere to these time limits in order to be fair to all witnesses and to those in the audience. We want to have ample time for questions from the witnesses and questions to the witnesses.

As I stated earlier, this panel and these hearings are set up to present testimony, to listen, to record, and to gather information from these witnesses' presentations.

One of my staff will set a time limit of 10 minutes. When the bell rings, you will know 10 minutes has passed. Thank you for your assistance in this matter.

During the course of the hearing today, if anyone in the audience wishes to ask a question of me or any other panelist, we would appreciate your standing up and clearly stating your name and full address for the record. We would like to know who you are and where we can reach you, only for the purpose of making sure any comments you made are correct and noted properly in the record. Thank you very much.

At this time I would like to introduce our first witness, whom I have already introduced, my good friend, Senator Boschwitz from Minnesota. Senator, you may proceed.[1]

STATEMENT OF HON. RUDY BOSCHWITZ, A U.S. SENATOR FROM MINNESOTA

Senator Boschwitz. I'm just going to make a statement of interest in Minnesota very closely identified with your interests down here in Iowa. I was attending hearings on nutritional programs yesterday in

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[1] See p. 213 for the prepared statement of Senator Boschwitz.

Kansas with Bob Dole, and I'm pleased to be here today, because I have a vital interest in soil conservation. I am very pleased to listen to these witnesses you have here, as most are farmers and apparently some small businessmen from the rural communities of Iowa, rather than listening to people we can so easily listen to in Washington.

I think that agriculture is the very base of our economy. Certainly it is in Minnesota, and it is as well in Iowa. I was not born on a farm. I grew up in and around New York, and as you probably can hear from my accent, I have only been in Minnesota for about 17 years, and I'm now back in Washington as a Senator.

But I very much understand that agriculture is the very basis of our economy in Minnesota, as it is in Iowa. And being a businessman, I have Plywood Minnesota stores throughout the upper Midwest, I know that when the farmers are doing well, the entire rural economy prospers. And I have a great sense of what the situation is, perhaps even before some people in the farm business.

So one of the great strengths of our country is that the Good Lord has put our real estate in the right place, where it gets rain, where it's fertile, so that we have become the breadbasket of the world and that we have been able to supply not only our own needs, but the needs of many others.

And while oil and other minerals sometimes seem to be momentarily important, I think that the long-range outlook for our country is, indeed, strengthened by our agricultural capabilities.

There's no question in my mind that husbanding the soil, that laying it fallow so that it can regenerate itself is part of the duty of a farmer to himself, to our country, and to the very basis of which he holds a trust to the land that he farms and owns.

Exactly how the business of soil conservation is to be achieved is really what I'm here to listen about and to learn about. Whether or not you want an extensive Government program—and I hope not—in order to do something which I think is a part of the obligation of, yes, the Government to some degree, but basically the farmer. That's what I am here to find out. Soil conservation and good husbanding of the soil is part of the obligation that we all have to the continuation of our country, the continuation of productivity of our country and the continuation to the strength and ability to keep people from hunger.

Senator **JEPSEN**. Thank you, Senator.

At this time the first witnesses will begin. We have Congressman Grassley and a representative from Congressman Tom Tauke's office.

Mr. **GRASSLEY**. Thank you. I thank you for the opportunity of appearing here today. I thank you for taking some time out of what I'm sure you'd like to have be a vacation to come to Iowa, Senator Jepsen—I know you are here very frequently—but Senator Boschwitz, at this time, too, to come to Iowa to hear the points of view of people that are involved in agriculture in the No. 1 agricultural State in the Nation.

Senator **BOSCHWITZ**. No. 2.

Mr. **GRASSLEY**. No. 2, OK.

Senator **BOSCHWITZ**. Actually, I'm just here to look at my warehouses.

Mr. GRASSLEY. I would like to have my remarks printed in the record, and I'm only going to allude to certain portions of them, because I know the time is short. So if you would have it in the record, then I'll just paraphrase some of the things that I was going to say.

STATEMENT OF HON. CHARLES E. GRASSLEY, U.S. REPRESENTATIVE FROM THE THIRD DISTRICT OF IOWA

Mr. Chairman, I am pleased to have the opportunity to make this statement to the committee today on this issue that is so important to Iowans as well as to producers and consumers of agricultural products in the United States and the world. You are to be commended for holding this series of hearings to provide a forum for discussion of critical conservation needs in Iowa and across the Nation.

It is no understatement to say that the soil is our most precious national resource. We have heard that said so often over the years that it may have lost some of the force and impact of its meaning. Nevertheless, it is very literally true. When we run out of good soil in this country we will run out of food, unless someone can figure out another way to grow it. Hydophonic farming isn't ready as a replacement yet.

The disturbing fact is that we are rapidly losing our good topsoil, and I think we have reached a point now where that is really beginning to hit home with many people. When you pick up a newspaper article and read that someone measuring topsoil here in Iowa a hundred years ago found it 2 or 3 inches thick, but today it is only 6 inches thick on many sloping soils, the danger of soil loss becomes a frightening thing. If the farmers of this Nation are going to continue to produce, they must have soil, water, and a price for their produce. Those three elements are absolute essentials. We must be deadly serious in the attention we give to all three.

If I may be permitted to express some pride in being an Iowan, Mr. Chairman, I just want to say it has been my experience that Iowans are often a step or so ahead of others when it comes to dealing with the important things in life—the things that really matter. The problem of conservation is no exception. Iowans are concerned about conservation, distressed at the amount of soil loss in the State, and are actively seeking solutions. Much credit is due the people of this State for the really progressive efforts that are being made to find effective ways to reduce soil erosion. Much more needs to be done, of course, but we must not fail to recognize the good work underway.

Mr. Chairman, I fully agree with you that on the national level, soil conservation should be a top priority item for consideration in deliberations on the general farm bill next year. Conservation is such an integral part of the whole agricultural picture, it is essential that it be treated for legislative purposes as one important aspect of a total agricultural package. There will be no more appropriate time to examine in detail the conservation programs and policies of the Federal Government to see what is working well and what is not, and to attempt to fashion an improved approach to conservation nationally that will better meet the varying needs of States and local areas.

This is one reason why the hearings you are holding this week are so important. You will be receiving testimony from many knowledgeable, well-informed people who have been and are right in the forefront of conservation efforts in Iowa. You will be hearing from producers and professionals, from experts in both the public and private sector. The record that will result from these sessions should be of real value to the Congress early next year when work on the new farm bill will begin. You have provided in these hearings a forum for fresh ideas, suggestions and recommendations as to ways in which our conservation objectives can be accomplished more effectively—and you will be hearing from the people who actually do the work, who know what they are talking about. The Iowa experience in conservation is a valuable one that should be made available to the U.S. Congress, and you are certainly to be commended for making this possible.

The purpose of these hearings is not to receive testimony on particular legislative proposals, but to obtain suggestions that may lead to improvements in our conservation efforts. Nevertheless, Mr. Chairman, I do want to mention three bills that I have sponsored and cosponsored that illustrate some of the conservation issues that must be addressed legislatively.

One bill I introduced this spring would provide a 20-percent tax credit for conservation practices farmers put into effect on their land to reduce soil erosion. The credit would apply against qualified land conservation expenditures actually paid or incurred by the taxpayer during the taxable year. Using tax credits as an incentive to encourage good conservation practices is an approach that I believe has much potential. The tax system offers a mechanism that can be very effectively adapted to such a program. Conservation tax credits could complement other conservation programs and be meshed with them to become part of a coordinated and comprehensive effort.

A second bill I introduced would authorize a program of incentives through the Federal commodity programs to land users who voluntarily apply and maintain specific conservation measures. These incentives could include increased loan levels, purchases, and target prices for commodities under the farm programs, as well as lower interest rates or interest waivers on commodity loans, cost sharing, and technical assistance. Financial assistance would also be authorized to help replace income lost due to crop adjustments for conservation purposes.

This bill would also direct the Secretary of Agriculture to set up a pilot program to test the effectiveness of cost sharing with farmers based directly on the amount of soil they can save. Soil losses of participating farmers would be measured before they implement new conservation measures, and tests would be made periodically to determine if the practices actually reduce the soil loss rate. Cost-sharing payments would be made in proportion to the amount of genuine reduction. This would provide an additional incentive to use those practices that work best.

The whole farm approach to conservation is stressed in this bill, along with the partnership concept of mutual effort and responsibility of farmers and the Government in conserving natural resources.

A third measure which I have cosponsored would authorize the Federal Government to develop long-term conservation partnership contracts with farmers in parts of the country which suffer from especially chronic soil erosion problems, such as southwest Iowa. The program would be patterned after the Great Plains conservation program which has been operating in 10 Great Plains States since 1956. It would supplement existing programs under which conservation assistance on an annual basis is available to farmers in all parts of the country. Under this bill farmers in regions designated for participation under the proposed Special Areas Soil Conservation Act would be eligible to sign contracts with the Agriculture Department providing for installation of approved conservation measures over periods ranging up to 10 years. Producers signing such contracts would be eligible for Government assistance covering part of the cost of the conservation projects.

I believe the programs proposed in all three of these bills could be constructive and effective supplements to existing conservation programs. At the same time I feel we must take a good hard look at all our existing programs to see in what ways they can be improved and made to work better.

In conclusion, Mr. Chairman, the fact that damage to Iowa's soil this year may have been the worst in 6 years, had made us all the more conscious of the need to take additional steps to protect our soil and water resources. The economic health and security of our Nation are dependent on continued agricultural productivity. Are we to be good and faithful stewards of the lands? Are we to leave our children a legacy of fine, rich, productive topsoil that can still feed the Nation and much of the world? In what condition will Iowa's farms be 100 years from now? The solutions to these problems are available to us, as you know so well Mr. Chairman, if we just have the courage and the fortitude and the wisdom to reach out for them.

Again, I want to thank you for the opportunity to participate in this hearing today.

William Jennings Bryan at the turn of the century declared: "Burn down your cities and leave our farms and your cities will spring up again as if by magic. But destroy our farms and the grass will grow in the streets of every city in the country."

I believe whether it's in regard to soil conservation or whether it's in regard to just the general farm economy, that statement of William Jennings Bryan does lay out very clearly the impact that agriculture has on the rest of the economy in this entire country. That means that the prosperity of 3½ percent of the people that are farmers and their success is directly related to the prosperity and success of the rest of the 96½ percent of the people in the country and the entire economy of our great Nation. And that's no more true than when you relate it directly to the preservation of the greatest natural resource our country has.

And let me clarify that when I say the greatest natural resource that I understand, as I hope everybody in this room does understand, that the strength of America comes from the productivity of our people as they make use of our natural resources. There's just no way you can have prosperity just because you have money coming off of the printing presses in Washington, D.C. So in fact soil is our most precious natural resource.

The disturbing fact is that we are losing it very rapidly. What used to be more than a foot of topsoil is now estimated to be on an average in Iowa, 6 inches. Topsoil is wasting away in Iowa at twice the national average. And yet Iowa farmers are rapidly becoming a people who through self-education and through encouragement from Government, plus adequate use of State and national programs, are cutting down on the loss. But this year was a particularly bad year. There was probably more soil lost this year than in any 6 years.

But programs at the State and national level aren't the sole solution to the soil conservation problem. They are only part of it. Government can be in a leadership role.

And I want to commend our State legislature in the last 10 years for the bipartisan fashion in which the soil conservancy bill was passed—it's landmark legislation that is being copied in other State legislatures—as well as Governor Ray's institution about 6 years ago of a program that's been continued in the meantime of State funds for soil conservation structures and work on farms within our State to complement those programs of the Federal Government that are almost 50 years old at this point.

But one of my premises is that if we are just going to rely upon the Federal Government through appropriations to solve the soil conservation problem, the extent to which there has to be funds expended to accomplish it, other than beyond just good agricultural practices, is going to have to be with the encouragement through our tax programs of the private investment.

So, Mr. Chairman, I'd like to just very shortly touch on three pieces of legislation that I've introduced or cosponsored. Conservation obviously has to be an integral part of the whole agricultural picture. And so it ought to be treated as such in the general farm bill that comes up next year. It is essential that it be treated for legislative purposes as one of the important aspects of a total agricultural package. There will be no more appropriate time to examine in detail the conservation programs and policies of the Federal Government to see what is working well and what is not, and to attempt to fashion an improved approach to conservation nationally that will better meet the varying needs of State and local governments.

That is one reason why the hearings you are holding this week are so important. You will be receiving testimony from many knowledgeable and well-informed people who have been and are right in the forefront of conservation efforts in Iowa.

One of these bills that I have introduced that I hope that your committee will give consideration to is one that would provide the 20 percent tax credit for conservation practices farmers put into effect on their land with a resultant soil erosion reduction. The credit would apply against qualified land conservation expenditures actually paid or incurred by the taxpayer during the taxable year. Using tax credits as an incentive to encourage good conservation practices is an approach that I believe has much potential. The tax system offers a mechanism that can be very effectively adapted to such a program. Conservation tax credits could complement other conservation programs and be meshed with them to become part of a coordinated and comprehensive effort.

A second bill I introduced would authorize a program of incentives through the Fderal commodity programs to land users who voluntarily apply and maintain specific conservation measures. These incentives could include increased loan levels, purchases and target prices for commodities under the farm programs, as well as lower interest rates or interest waivers on commodity loans, cost sharing and technical assistance. Financial assistance would also be authorized to help replace income lost due to crop adjustments for conservation purposes.

This bill would also direct the Secretary of Agriculture to set up a pilot program to test the effectiveness of cost sharing with farmers based directly on the amount of soil they can save, as it is possible to measure that fairly sophisticatedly.

A third measure which I have cosponsored would authorize the Federal Government to develop long term conservation partnership contracts with farmers in parts of the country which suffer from especially chronic soil erosion problems, such as southwest Iowa. The program would be patterned after the Great Plains conservation program which has been operating in 10 Great Plains States since 1956. It would supplement existing programs under which conservation assistance on an annual basis is available to farmers in all parts of the country. Under this bill farmers in regions designated for participation under the proposed "Special Areas Soil Conservation Act" would be eligible to sign contracts with the Agriculture Department providing for installation of approved conservation measures over periods ranging up to 10 years. Producers signing such contracts would be eligible for Government assistance covering part of the cost of the conservation projects.

I believe the programs proposed in all three of these bills could be constructive and effective supplements to existing conservation programs, and I want to emphasize "supplements to existing conservation programs." At the same time I feel we must take a good hard look at all our existing programs to see in what ways they can be improved and made to work better.

In conclusion, Mr. Chairman, the fact that damage to Iowa's soil this year may have been the worst in 6 years has made us all the more conscious of the need to take additional steps to protect our soil and water resources. The economic health and security of our Nation are dependent on continued agricultural productivity. Are we to be good and faithful stewards of the land? Are we to leave our children a legacy of fine, rich, productive topsoil that can still feed the Nation and much of the world? In what condition will Iowa's farms be 100 years from now? The solutions to these problems are available to us, as you know so well, Mr. Chairman, if we just have the courage and the fortitude and the wisdom to reach out for them.

Thank you.

Senator JEPSEN. Thank you, Congressman.

I'm going to ask all of our people who are testifying today the same question. I will start with you. Would you comment, please, on your feeling about voluntary versus mandated soil conservation practices.

Mr. GRASSLEY. If it's in regard to requiring such compliance to participate in a farm program, which probably will be an issue next year and I think has been discussed by Secretary Bergland, I do not feel that that's the approach to go. I believe that that sort of mandatory practice is going to lead to resentment and probably not accomplish the goals that can be accomplished through the education and voluntary approach.

I think it's somewhat the antithesis of what has made American agriculture great, the freedom of the farmer to produce. Farmers obviously are the first environmentalists that ever existed, and I think that when farmers realize, and most do, that good soil conservation is a good investment of resources and will increase productivity, that that's the route that should be taken.

Now I speak mainly for the Federal Government. The extent to which individual States, because our country is geographically vast and our population is heterogeneous, the extent to which we can't put this country all in one mold, and maybe a State legislature, as the Iowa legislature has been talking about requiring some land use practices, that would be another matter that I would not have the philosophical objections to that I do have of the Federal Government enacting the same legislation.

One area not directly related to soil conservation that I would suggest that I have been involved in and I think you have been and the Senate Agriculture Committee, but just for point of emphasis, is the extent to which land use is affected by urban sprawl. And that is indirectly related to soil conservation, but it's not a soil conservation issue as much as it is a land use issue.

You will find that there are programs in the Economic Development Administration of the Commerce Department, in the Housing and Urban Development Department, some community block grant programs, and even some Farmers Home programs within the Agriculture Department because of no Federal policy on urban sprawl have contributed more to urban sprawl than any commercial developments have. And yet it seems like all of the criticism has come from commercial development and private sector development. But the subsidy programs of these three departments have contributed to as much prime agricultural land being covered by cement and buildings as anything in the private sector has promoted.

And so I think we ought to look at those policies and change our own policies before we condemn the American farmers for bad use of agricultural land.

Senator **Jepsen**. Thank you.

Senator, do you have any questions?

Senator **Boschwitz**. I would like to say that I think that your three proposals are very constructive, Chuck, and I just made a list of the members of the Agriculture Committee on which Roger and I both serve in Washington. We have one person who is a full-time farmer, Senator Young, who is retiring, and Roger, who spent a good share of his life on the farm and perhaps is as close to a farmer as any of us. But of 18 members on the committee, there is only one active farmer. And he, Senator Young, is retiring this year.

So I hope that you will come down to Washington and participate very actively in the Agriculture Committee. There are a lot of southerners. The chairman is from Georgia. And so the programs for cotton and peanuts are particularly strong and we need more representation from the grain-producing States, without any question. So that, as a matter of fact, the most senior members of the Agriculture Committee on both sides are southerners, and tobacco and those kinds of crops are very well represented. So I hope you will take a very active part and role in the agriculture.

Mr. **Grassley**. I will; as I have as a Member of the House in the House Agriculture Committee.

Senator **Boschwitz**. I don't have any other comments other than that.

It's interesting, too, Congressman, that you bring in William Jennings Bryan who, of course, ran for President three times on the Democratic ticket. And I just want to emphasize, as you have, by that, that soil conservation is a very bipartisan type of thing, and I treat it that way and I know that Roger does as well.

Mr. **Grassley**. Thanks to both of you.

Senator **Jepsen**. Thank you, Congressman.

Our next witness is a representative from Representative Tom Tauke's office, Steve Nicholson.

Mr. Nicholson, do you have some things to offer?

STATEMENT OF HON. THOMAS J. TAUKE, REPRESENTATIVE IN CONGRESS FROM THE SECOND DISTRICT OF IOWA, AS PRESENTED BY STEVE NICHOLSON

Mr. **Nicholson**. Yes, I do. I apologize for the Congressman not being here. I am the representative for Congressman Tauke. He asks me to bring these comments to the committee. I will read them, and this is very brief.

Senator Jepsen, representatives from the Senate Agriculture Committee, I appreciate the opportunity to testify at this soil conservation hearing. The issue of soil conservation is of extreme importance to Iowa specifically, and to the Nation as a whole. I commend you for your ongoing efforts to meet the growing challenge to save our soil resources.

Iowa's most important natural resource is its land. Our farmers produce 10 percent of the Nation's food supply and ranks second nationally for agricultural exports. Moreover, agriculture serves as the foundation for Iowa's economy. Therefore, it is not surprising to find that insuring that our land retain its productivity is Iowa's top resource priority.

Unfortunately, Iowans have reason for real concern. Iowa has more cropland sustaining unacceptable levels of soil erosion than any other State in our country. The Soil Conservation Service estimates that Iowa loses an average of 9.9 tons of soil per acre of cropland each year. The average soil loss tolerance level on cropland, pasture, and forestland is about 5 tons per acre per year; erosion above that level jeopardizes the productivity of the land.

The urgency of our dilemma was pointedly underscored by Iowa's recent soil losses as a result of spring rains. Figures for the estimated soil losses for the month of June of this year alone in the counties of my congressional district are tragic. The Soil Conservation Service reported that over 220,000 acres in my 11-county district suffered severe soil erosion; erosion resulting in over 10 tons per acre loss. Cedar County was hit hardest with 60,000 acres falling into the "severe loss" category, followed by Jackson County with 50,000 acres, Dubuque County with 30,800 acres, Jones County with 30,000 acres, Linn County with 20,000 acres, Delaware County with 12,600 acres, Clayton County with 7,000 acres, Fayette County with 5,000 acres, Clinton County with 3,500 acres, and Allamakee County with 1,200 acres. The only county in my entire district reporting no severe soil erosion was Winneshiek.

Some areas suffered losses ranging from 50 to 75 tons per acre. A loss of 75 tons of soil per acre is equivalent to about one-half inch of soil. About 100 years ago, the State's topsoil averaged about 14 to 16 inches in depth. Today, nearly half of this has disappeared, leaving an average of only 6 to 8 inches of topsoil. The future of Iowa's agricultural economy is clearly in jeopardy and could face a dramatic deterioration if we cannot turn this trend around.

Our constituents, as well as the rest of the people of our Nation, have given us—elected public officials—a clear mandate. They want our soil saved and they feel that Government should play a significant partnership role with farmers to get the job done.

During "Iowa 2000," a public opinion study conducted throughout Iowa in 1978, we found that Iowans recognize land as our most significant natural resource and they indicated that maintaining the productivity of our land by curtailing soil erosion should be a top priority.

These concerns are equally reflected on the national level. Through a nationwide survey by Pollster Louis Harris for the U.S. Department of Agriculture, we discovered early this year that Americans realized that we have a severe soil erosion problem; and they fully support expanded efforts to save our soil and water resources. Our people recognize that saving our natural resources for future generations will be costly, but that the effort is well worth it.

But we are not getting the job done. Just last week, I participated in a soil conservation tour in Jones County. Farmers indicated to me that they definitely wanted to do more to save their precious soil, but felt that they had not been adequately informed of the available soil conservation assistance programs. One problem, they felt, was that local Soil Conservation Service offices do not have the proper numbers to meet the task of reaching out to all farmers. They suggested that increased funding for staff personnel may be appropriate.

I contacted the State Soil Conservation Service office to further investigate this problem. Officials there stated that although in most instances, yearly government cost-sharing assistance was fully utilized, it is true that the SCS is generally capable of handling only those cases in which farmers come in on their own initiative to seek help. Therefore, many other critical soil erosion problems go untouched.

Moreover, I was informed that nearly two-thirds of the State's land is left unprotected from soil erosion. This is unacceptable. But to fully meet our soil erosion problems, SCS officials indicated that programs would have to be expanded, providing increased financial assistance as well as larger staffs for proper and adequate administration.

I could not agree more. Recently, the House passed the fiscal year 1981 agriculture appropriations bill, H.R. 7591. Over $770 million was appropriated for conservation-related programs. On the surface, this appears to be an immense amount of money, but in light of the magnitude of our soil conservation problems, it is not. It has been estimated that it could take $103 billion over the next 50 years to meet the soil conservation needs of our Nation. This year's conservation appropriation level is well off the mark if we hope to meet the challenge.

Perhaps it is not realistic to assume that permanent conservation structures, such as terraces, will be built in time to save Iowa's soil. Therefore, we need to direct our attention toward efforts to encourage farmers to adopt ongoing conservation practices, such as "no-till" farming.

If there is one message that I can leave with you today, it is that we must move to push for a more aggressive, effective soil conservation program. What we do, or fail to do, in the next few years, will have a critical impact on the future of our great State, our Nation, and for that matter, the entire world.

To meet the nutritional needs and demands of our expanding population, we need to renew our commitment to soil conservation. We need to make certain that the future demands for increased productivity can be met without devastating our natural resource base. The Government must be willing to provide increased technological and financial assistance, for this is a burden that the farmer cannot be expected to carry alone. And we need to reach out to more farmers and increase incentives for farmer participation. Foremost, we must act now. We cannot afford too many more disastrous springs where we see millions of acres of prime farmland sustain the severe erosion that we experienced this past year. Our future generations are counting on us to act wisely and expeditiously. We have our work cut out for us.

Thank you for the time and opportunity to speak to this very pressing issue.

Senator **Jepsen**. Thank you very much.

Mr. **Nicholson**. Thank you. Senator.

Senator **Jepsen**. At this time I would like to introduce George Calvert. George is deputy director of the highway division of the department of transportation.

Do you have a script that you will be following word for word?

STATEMENT OF GEORGE CALVERT, DEPUTY DIRECTOR-DEVELOPMENT, HIGHWAY DIVISION, IOWA DEPARTMENT OF TRANSPORTATION, AMES, IOWA

Mr. **Calvert**. Almost in its entirety.

I thank you very much for the opportunity to talk before this very distinguished group and explain to you some of the problems we have with erosion and some of our solutions to these problems.

Soil erosion is a serious problem that is very costly for the Iowa Department of Transportation. Our maintenance forces annually spend one-half million dollars in materials and labor to clean ditches and structures and remove windblown soil from roadways and accumulations of soil behind signs and guardrails. Wind erosion is a particularly serious problem in the flatter parts of the State such as the north central and northwestern parts of Iowa.

In addition, we experience accumulations of enormous amounts of waterborne soil on highways through the State. It is not uncommon to have roadway ditches, culverts, and drainpipe partially or completely blocked by soil during the spring rainy period. Our maintenance forces continually remove these materials so drainage structures can function properly. On occasion, soils are removed from the roadway surface itself in order to make it a more safe and passable facility.

Much of this erosion does not occur within our right of way limits but is washed or blown onto the right of way from adjacent farmland. The heavy stand of grasses and legumes on the right of way entraps the soil and accumulates it. These accumulations are normally the lighter soils that are higher in organic material and the black loose alluvial deposited material that is so essential to the production of good farm crops.

We do, on occasion, have a very severe problem in and around cattle feeding lots where the runoff from the feeding operation accumulates in great quantities in ditches. These materials must also be removed.

These are costly and time consuming items. The roadway user does not benefit from this accumulation of materials that must be removed with dollars that could be spent to maintain cracks, potholes, and faults within the roadway itself. The farmer, of course, is the big loser. He has lost a great amount of his most valuable soil. Quite often fields must be reshaped in order to be plowed and cultivated.

In addition to monies that are spent by the department of transportation to correct erosion situations that do not originate within our right of way, a considerable amount of money is spent to perform erosion control work within the right of way to prevent erosion of the disturbed materials during roadway construction.

Erosion control work as performed by the Iowa Department of Transportation consists of seeding, fertilizing, mulching, special ditch control and other work on those portions of the right of way that have been disturbed during highway construction. This work is performed to protect those disturbed areas from erosion caused by rain and wind.

The major purpose for this work is to preserve the highway earthwork and structures and to maintain a safe area outside the normally traveled portion of the highway. Expenditures of time and funds are essential to stop the formation of ruts and rills in these areas as well as to prevent pollution of drainage areas by siltation. An additional accomplishment of such work is the pleasing and aesthetic appearance of the roadway user.

During the early road building period in Iowa, very little conservation work was done. Soil conservation was not recognized as an essential part of the total road project and no construction funds were made available. Occasionally, when a deep cut had been made past a farmstead, the engineers might have suggested to the farmer that he clean the chaff out of his hayloft and spread it over the cut slope. The chaff provided a mixture of seeds as well as mulch. The major portion of the scars on the landscape were left for nature to do the seeding and healing.

Any corrective measures made in these early years were handled by our maintenance forces and were normally limited to bluegrass stripped and seeded across southern Iowa. In general, there were no established methods or procedures to accomplish the work.

During the Depression years, starting about 1934, the bureau of public roads made certain funds available for what was then termed "roadside beautification." This program consisted of planting trees, shrubs, and various types of ditch protection.

Presently, erosion control work is considered a must and has long since ceased to be considered a luxury item. We recognize that erosion can destroy safety features which have been designed and constructed at considerable cost. Water and wind erosion is very expensive and dangerous and is commonly observed in the form of edge ruts adjacent to paved roadways.

Since 1972 we have increased the procedures for control of erosion and reduced the amount of silt pollution on adjacent lands and water courses due to highway construction. These procedures include the obvious use of stabilizing crop seeding, fertilizing, and mulching. The utilization of drainage areas, silt basins, silt dikes, silt ditches, silt fences and silt fence for ditch checks is a part of the grading and grading and paving projects. Crushed rock is placed adjacent to paved surfaces to minimize wind erosion.

Erosion control work done on interstate projects is a good example of the importance of erosion control and topsoil. The initial cost for temporary erosion control measures on a 5-mile project constructed on I-380 in Benton County from the Linn County line northwest approximately 5 miles through 101 represents a total expenditure of about $108,000. This is approximately 5 percent of the total cost of the project, or about $20,000 per mile.

Temporary erosion control measures included on the project plans are:

1. Stabilized crop seeding and fertilizing.

A mixture of seed will provide a vegetation cover from early spring until September 30. Seeding is to be applied on all disturbed areas as soon as the designated area of the grading project has been constructed to the acceptable finish grade. No more than 17 acres can be disturbed without appropriate erosion control measures being performed.

2. We construct silt basins, silt ditches, silt dikes, silt fences, and silt fence ditch checks are used with the grading project to minimize erosion and stream pollution.

3. Erosion areas disturbed after September 30 may have mulch material applied to minimize erosion until ground cover develops sufficient height and root systems to resist erosion. Scarifying the backslopes and foreslopes also provides erosion control by allowing the rainfall to penetrate rather than induce rapid runoff.

Temporary erosion control measures are also included with the paving projects to provide a vegetation cover for areas which will be disturbed when the road is being paved.

Following the completion of the paving project, a separate erosion control project provides for permanent seeding, ditch control, fertilizing, mowing, placement of edge rock and other construction practices which may be essential to minimize maintenance problems in the future.

Areas from which soil is removed for the construction of highways, commonly referred to as borrow pits, are restored to reduce erosion or the loss of productive farmland. Since the topsoil is not a good road building material, the underlying clay soils are used for highway construction. Whenever possible, the topsoil is salvaged and respread over the borrow area.

In some instances a considerable amount of dirt is removed from a relatively small area, resulting in the creation of a lake or pond. This method reduces the surface area of cropland which might be taken out of production. The creation of lakes and ponds has the additional benefit of creating recreational and/or wildlife habitat.

To further determine the best way to restore borrow pits to normal crop production, we have instituted a $200,000 research project with Iowa State University to study this area of concern.

Our current policy of reconstructing highways on their present alinements whenever possible also has the potential of saving valuable farmland.

We are committed to a continuing program of conserving our Nation's resources, and fertile Iowa topsoil is one of those most important resources.

Thank you.

Senator JEPSEN. Thank you, Mr. Calvert. Your testimony represents a dimension that I haven't heard emphasized a lot in the soil conservation area, even though soil erosion is a serious problem for the Department of Transportation, the costs of cleaning out ditches and structures. We know that soil erosion, very simply stated, is a movement of soil from one place to another, and one of the places it moves to in Iowa is the ditches and culverts. So some preventive maintenance and planning ahead through soil conservation is very important. I appreciate your remarks. They are very informative.

Do you have any comments, Senator?

Senator BOSCHWITZ. I found it to be very informative, too. I didn't think much of the highway aspect of it. I also appreciated that your remarks were directed at the solution of the problem and what you are doing. And I hope that other witnesses, Senator, will direct their remarks not so much at the problem, it seems to have been well established, but the methods of overcoming it. So I appreciated your testimony.

Mr. CALVERT. Thank you very much.

Mr. MCCARTHY. Mr. Calvert, a further point of clarification. Following from your example of the cost of the erosion control work on the interstate, could you tell us whether you run into more costly work on those types of highways, or is some of the work that you are doing on county and State roads just as expensive? Is there a clear way to tell, or are they all about the same costwise?

Mr. CALVERT. Well, our interstate construction involves the disturbing of more farmland simply by the size of the roadway, the width of the roadway and whatnot. But our costs are related to the type of terrain we go through. The rolling and rough terrain is more expensive to establish seeding on, to establish erosion control practices on that are effective than it is on the flatland by and large. It's less expensive to control erosion in the flat country.

There is one comment I'd like to make. The Senator had asked early about Federal programs, and I would like to suggest that we have found the farming industry a very intelligent bunch of people, very good businessmen. And if we show them good erosion control practices, they follow them voluntarily. And I would like to suggest that you include in your program more demonstration-type projects, showing the farmers how good erosion control practices can be installed at very little cost. And I'm sure that they will follow these practices, rather than trying to force them to do something that they are unfamiliar with and dictate to them how they will use their cropland.

Senator JEPSEN. May I reiterate what you have said? That saves me asking a question. You feel that education and selling the program with creativity and innovations is much better than mandating?

Mr. CALVERT. That's right.

Senator JEPSEN. Thank you very much.

I have had the opportunity to review partially the next witness' testimony, and being as objective as I can, and I have known this witness a good share of my life, I must say that Jim Sage, a Black Hawk County farmer, is certainly an example of a steward of the soil and basic independence and self-initiative in America. Jim, welcome, and we look forward to hearing your testimony.

STATEMENT OF JIM SAGE, WATERLOO, IOWA

Mr. SAGE. Thank you for the opportunity to testify before this Senate Agriculture Subcommittee on Environment, Soil Conservation, and Forestry.

"Live as though you are going to die tomorrow—farm as though you are going to farm forever." I can be very thankful that this motto, passed on to me by my father, has played a dominating role in my life's work of producing food, not only for my family, but for many people the past 23 years. In order to maintain and increase food production from our land, we have learned that a strong soil and water conservation program, established when my great-grandfather first settled on part of our farm 123 years ago, has been the guiding force in our farming operation.

With crop rotations, contour farming, minimum tillage, and a livestock program, we have been able to live within the allowable soil loss limits for our soil types of 5 tons per acre soil loss per year, as established by the soil conservancy laws of Iowa. I am especially proud to say that we have been able to accomplish this without any financial assistance from any governmental agency. On our 590-acre farm, we follow a crop rotation of 1-year oats, 1-year hay or pasture, and 2 or 4 years of corn. Row crops are contoured where needed and have been chisel plowing hay, pasture, and corn ground since 1970. We feed approximately 180 head of cattle a year and raise from farrow to finish 1,000 head of hogs mainly on a summer pasture farrowing system.

From an economic standpoint, our farming operation has not brought in the most dollars as could be gained by following a continuous row crop rotation, which would subsequently mine and ravage the soil in our present generation. But we have been able to expand our farm by purchasing additional acreage, of going through the confiscatory process of over $160,000 in four estate settlements of our parents since 1975 and raising a family, which will hopefully have a dedication of producing food and maintaining the land in a good productive state in the future.

I am sorry to say that I see this ravishment of the soil continuing at a faster and faster pace in the past 25 years throughout the Midwest, because of the cheap food policy and extensive exportation of our farm products that are being advocated by our national leaders. These policies are really tragic, if you have studied any history and read of other civilizations not following a policy of maintaining their basic resource, soil. Also the misguided efforts of consumer activists in changing the American consumer's food purchases, from an animal and plant protein diet to an all-plant protein diet, is very shortsighted. The soybean, from which the majority of our plant protein comes from, is the most erosive crop in American agriculture. We need to maintain a strong and viable livestock economy, which does not necessitate so many of our acres being placed in row crop production. Livestock manure along with plant refuse are vital in maintaining a renewable resource of nitrogen, phosphorus, and potassium. We are already importing much of our potassium and within 20 years, at the present rate of usage, most of our phosphorus. The soybean plant does not have the ability to replenish the soil with these basic elements as does a sound livestock program.

Instead of setting up broad extensive Government programs for soil and water conservation, establish property, income, inheritance, and estate tax reduction incentives, based upon each farming operation living within the allowable soil loss limits for its type of soil.

We would gain much more of each tax dollar for actual conservation practices, if it could be kept right here on the land instead of filtering through a number of hands from here to Des Moines or Washington and then back to the individual farm. It has been my observation, when an individual places all of his own financial resources into the land, he will have a much more healthy respect to see that the land is maintained in a productive state for future generations.

Senator JEPSEN. After that testimony, I don't believe I'll even ask you the question that I was going to ask of everybody about voluntary versus mandatory. I appreciate your testimony.

Senator Boschwitz, do you have anything?

Senator BOSCHWITZ. I thought it was excellent testimony, giving us some guidance as to the direction that we should go.

You say that you have been able to expand by additional purchases and by going through the confiscatory process of $160,000. That's estate taxes that you had to pay?

Mr. SAGE. Inheritance and estate taxes.

Senator BOSCHWITZ. Well, we hope we are able to do something about that, to remove that, because I think an important part of the whole conservation process is passing of the farm from father to son and to son-in-law and daughter. When we create the environment which will allow this to take place, people will have a greater incentive to husband the soil for future generations, as apparently has been done in your family.

I have learned a great deal from your testimony, and I thank you for it.

Ms. Snyder-Smith. I have a question. Your farm has been in the family for 123 years and you have had conservation practices on the farm for that long. Do you think it would be harder today for a young farmer getting started to install conservation practices without some outside help?

Mr. Sage. Possibly. First of all, you have to have that feeling for conservation built into that young farmer and his landlord, that we have to maintain the soil. All-out production has been the practice for the last number of years from our national viewpoint and it has not been beneficial to do that.

Senator Boschwitz. With the other farmers, there has been talk about having 14 to 16 inches of topsoil and having a loss of approximately half of that. Do you have any sense what the loss in the last 100 years has been on your farm?

Mr. Sage. Oh, I'm sure that we have lost some soil because of the types of rains through the years. Any heavy rain can take soil away from any type of soil. But my goal is to try to replenish that soil each year by adding to it instead of taking away from it. And as to actual figures, I don't have anything to substantiate that.

Mr. McCarthy. No questions. Fine statement, sir. Thank you.

Mr. Sage. Thank you.

Senator Jepsen. Thank you very much, Jim.

An Illinois farm woman once wrote that "the land is like a child; yes, you grow with it, it's like a revolving thing. As a child, you grow up with the land and it takes care of you, and then one day you plant and it grows as a child does and you then take care of it."

I think Jim reflected that sentiment and the thoughts behind that statement.

Our next witness is Larry Rolfstad of Vinton. Larry, would you come front and center. Do you have a copy of your statement, or extra copies? He not only has copies, he has maps.

STATEMENT OF LARRY ROLFSTAD, PRESIDENT, BRENTON BANK AND TRUST CO., VINTON, IOWA

Mr. Rolfstad. I will attempt to follow the text that I have here.

I come to you today wearing many hats, they are growing up on a northwestern North Dakota cattle and wheat ranch, working in the banking business for the last 15 years and serving as an assistant commissioner for the Benton County Soil Conservation Service for the past 3 years. My present position as president of the Brenton Bank & Trust Co. of Vinton, Iowa, affords me the opportunity to deal with about 200 farmers located in our trade territory.

Here are a few facts and figures about Benton County's 377,000 acres of cropland: 224,000 acres have an erosion rate above acceptable levels. Erosion can be reduced to 5 tons per acre on 149,000 acres, of 3-4 percent slopes, by conservation tillage and contouring. The remaining 75,000 will need terracing and conservation tillage or no tillage to reduce the loss to less than 5 tons per acre. The slopes over 8 percent will need oats and hay and rotation along with terracing and conservation tillage to reduce erosion to acceptable levels. At least one-third of our total class III land, 125,000 acres, is losing 15 tons of soil per acre, per year. This means that we will lose at least 2 inches of soil in 20 years. We know that we cannot go over 20 years without significantly effecting capacity of these 42,000 acres of land.

We have identified about 72 sections of land in Benton County where erosion rates are 20 tons per acre, per year and higher and we are furnishing you with a map of the soil loss, broken into four categories of 0–4 ton loss, 6 ton loss, 9 ton loss, and 20 ton loss. It is indeed interesting that if the soils that needed terracing had contouring and conservation tillage applied, it would reduce the average annual soil loss to approximately 9 tons per year. By applying conservation tillage and contouring in a short period of time on soils that need to be terraced, we can double the length of time that the soil would retain it's productive capacity.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
IOWA AGRICULTURE AND HOME ECONOMICS EXPERIMENT STATION
COOPERATIVE EXTENSION SERVICE, IOWA STATE UNIVERSITY
DEPARTMENT OF SOIL CONSERVATION, STATE OF IOWA

GENERAL SOIL MAP

BENTON COUNTY, IOWA

Scale 1:253,440
1 0 1 2 3 4 Miles
1 0 1 2 3 4 5 6 Kilometers

SOIL LEGEND*

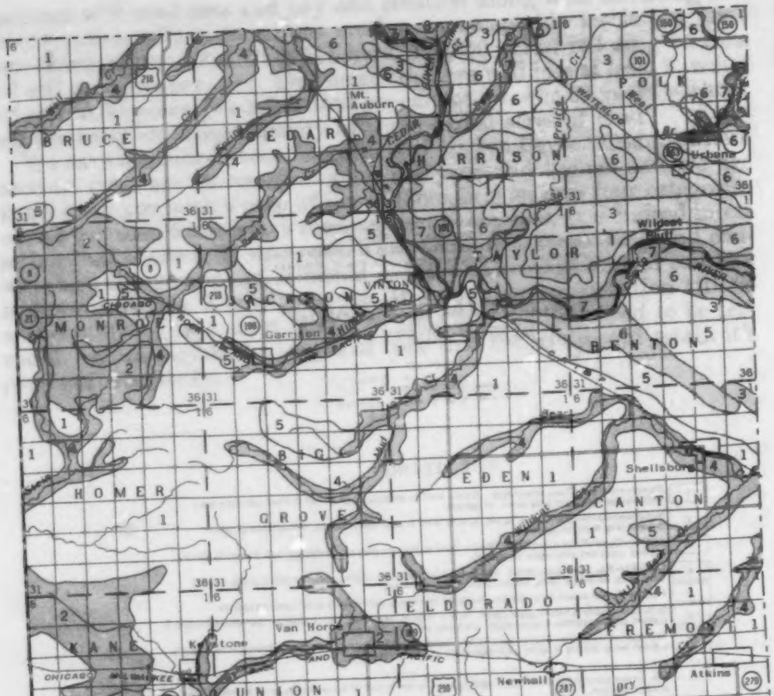
1	**Dinsdale–Kenyon–Tama association:** Nearly level to strongly sloping, well drained and moderately well drained loamy and silty soils; on uplands
2	**Muscatine–Garwin–Tama association:** Nearly level to moderately sloping, well drained to poorly drained silty soils; on uplands
3	**Kenyon–Clyde–Floyd association:** Nearly level to strongly sloping, moderately well drained to poorly drained loamy and silty soils; on uplands
4	**Colo–Ely–Waukegan association:** Nearly level to moderately sloping, well drained to poorly drained silty soils; on bottom lands, stream benches, and foot slopes
5	**Fayette–Downs association:** Gently sloping to very steep, well drained silty soils; on uplands
6	**Dickinson–Sparta–Chelsea association:** Nearly level to very steep, well drained or somewhat excessively drained and excessively drained sandy and loamy soils; on uplands
7	**Fluvaquents–Spillville–Flagler association:** Level to gently sloping, excessively drained to very poorly drained loamy and sandy soils; on bottom lands and stream benches

*The texture given in the descriptive heading refers to the texture of the surface layer of the major soils in each map unit.

☐	9 ton average loss
▨	6 ton average loss
■	0–4 ton loss
▨	20 ton loss

SECTIONALIZED TOWNSHIP

6 5 4 3 2 1
7 8 9 10 11 12
18 17 16 15 14 13
19 20 21 22 23 24
30 29 28 27 26 25
31 32 33 34 35 36


BRUCE
CEDAR
HARRISON
POLK
Mt. Auburn
Urbana
TAYLOR
Wildcat Bluff
JACKSON
MONROE
Vinton
Garrison
BENTON
HOMER
BIG GROVE
EDEN
CANTON
Shellsburg
KANE
Keystone
Van Horne
ELDORADO
FREMONT
UNION
Newhall
Atkins
IOWA
LEROY
ST. CLAIR
FLORENCE
Irving
Luzerne
Blairstown
Watkins
Norway
Belle Plaine
Walford
Morgan
CHICAGO
MILWAUKEE
PACIFIC

We will need to apply contouring at a rate of 80,000 acres per year to get the job done in 20 years, conservation tillage will need to be applied at a rate of 33,000 acres per year to get the job done in 10 years and we will need to apply terraces at a rate of 750,000 feet per year for 40 years to complete the needed terracing program. This would require an investment of $1,750,000 a year for tile and terracing. If the Government were to provide 75 percent cost sharing we would need $1,312,500 each year. At present we are getting a total of $120,000 per year from both Federal and State sources for all practices.

The Iowa House of Representatives Agriculture Committee has taken some steps to strengthen the law to help reduce soil erosion to nondepleting levels by the year 2000, under House File 2561, and I am sure that this is a step in the right direction toward providing us with some of the needed restrictions to prevent further soil loss. It has been my observation that we have always had too few funds to do an effective job of preserving our soil for future generations. It is my belief that a commonsense approach of providing an incentive for the farmer through private financing, subject to proper practices of the Soil Conservation Service, that we can work toward this end. Let me offer you a couple of suggested plans for financing various conservation permanent practices:

My first thought along this line would be to use the present funding that is appropriated for cost sharing to be used to subsidize financing of these practices through banks, savings and loans, production credit associations, and other financial institutions who could then sell these loans in a secondary market which would be set up similar to FNMA, FHLMC, or GNMA with the improvement being an encumbrance on the real estate involved. Second alternative would be to provide low interest rate loans through the sale of tax free bonds in much the same fashion that the Iowa Housing Finance Authority has done for the housing and will be doing for the young farmer program.

The practices would allow the financial institutions that are dealing with the customer to help in his long-range planning and provide him with a source and term of repayment which is not available under the present cost-sharing program. I do not believe that we can continue to fund these practices at the present lower level and expect to achieve the goals which are before us.

Senator **Jepsen**. Thank you. This year all the USDA conservation programs combined totaled only about 4 percent of the Department of Agriculture's budget. And for next year we are advised that even the most optimistic projections show that an attempt is going to be made to bring that percentage down even further. So you are offering, as Senator Boschwitz said earlier, the hope that people would have solutions here, as well as defining the problem. Your testimony is very well done.

This soil map is made up by the Soil Conservation Service. They work closely with you?

Mr. **Rolfstad**. I have an inside track. Being an assistant commissioner, they helped me a little bit; yes.

Senator **Jepsen**. I see. I would ask you the same question, if you can give me a one-liner answer. Do you favor education on a voluntary approach, or would you feel it should be mandated back by full funding?

Mr. Rolfstad. I guess I used the expression you can lead a horse to water but you can't make him drink, and I think we are better off trying to sell the program on a voluntary basis than to try to force something down and set up a bureaucracy to do it.

Senator Jepsen. Senator Boschwitz?

Senator Boschwitz. It's interesting to me to look at this map, in that apparently around the streams the losses are the least.

Mr. Rolfstad. That's true.

Senator Boschwitz. Which I would not have realized if I hadn't seen the map. Could you estimate for me what you feel the cost per acre per year would be to bring the loss down into acceptable levels, let's say on a 9-ton average loss of land?

Mr. Rolfstad. I testified earlier, Senator Boschwitz, part of it can be done just through some of the contouring and some of the practices of rotation and some of the things that we talked about earlier.

Senator Boschwitz. Which is really no cost, other than perhaps taking away some of the income.

Mr. Rolfstad. That's true, right. So to give you a hard dollars-and-cents figure, I can't. But I can tell you that much of that land that is laying in the yellow there, last year's corn crop would have averaged somewhere between 150 and 160 bushels to the acre, because that is supposedly some of the most productive ground in Benton County. So we are losing the highest priced ground then, too, if you want to say it from that.

Senator Boschwitz. What you are saying is that there's a sacrifice involved in husbanding the soil.

Mr. Rolfstad. That's right. And having grown up in western North Dakota where the winds blow free, I have realized from a young age what happens to the soil, because it will blow east one day and blow back west the next.

Senator Boschwitz. Pardon me if I ask another basic question, but listening to Jim Sage, he seemed to indicate that most of the erosion takes place by rain.

Mr. Rolfstad. In Iowa, yes.

Senator Boschwitz. I see. In Iowa the principal erosion would be through rain?

Mr. Rolfstad. From my observation it would be that it was.

Senator Boschwitz. Thank you, Mr. Chairman.

Mr. McCarthy. Mr. Rolfstad, you have indicated, or I have judged from your statement, that by being involved in banking and connecting that with your mentioning about trying to generate additional funds through banks and PCA's and the like. I would assume you would be favorably disposed toward trying to work in some way to assist with funds development. But do you have any idea if your colleagues in the banking business—let's just say within the State of Iowa—would be willing to undertake that type of involvement to help in promoting financial resources for this work?

Mr. Rolfstad. I think that overall, again I am not speaking for the group, but overall many of us are interested in soil conservation. And from that standpoint some of us have gone further and have identified with groups. But I think you will find a lot of friends in the banking business.

Our problem has been we have worked very closely with them on short-term operating, but most of these practices become intermediate-to long-term debts, and in small rural banks we do not have the capacity to carry that, so we need a vehicle to be able to help that.

Mr. **McCarthy**. Should more attention be given to, if not already structured that way, turning some of the programs that would provide for a Federal guarantee of a loan which would be handled locally and privately, say, by your bank? Could it be structured in such a way that—you know, if it's short term make longer terms either by changing the statute or regulation—it would help? I imagine that's a problem that you face as a banker looking at the commitment you should be making on a long-term basis.

Mr. **Rolfstad**. Our big problem in the banking business in rural Iowa is not that we wouldn't want to make these funds. It's the availability. We are users of funds rather than providers of funds, and that's where our shortage comes, plus the fact that our legal lending limits in some of those. So I'm sorry I didn't answer your question directly, but indirectly I'm addressing it.

Senator **Boschwitz**. You think there should be a Jenny May type of operation where you could sell the loans, rediscount them so that you can have the available funds?

Mr. **Rolfstad**. I am not a believer in bureaucracy, but if we could do it on a simplified basis much like Sally May is set up for student loans or something like that, and I know that's in its initial stages, and I'm sorry we are using those terms, but I think most of us that I'm testifying to here understand the terminology of what we are talking about.

Senator **Boschwitz**. The rediscounting procedures of the Federal Government are fairly efficient, I might say.

Mr. **Rolfstad**. Yes.

Senator **Boschwitz**. They do it for a tenth of a point.

Mr. **Rolfstad**. There are various programs. But as I say, I think the Sally May type student loan program, it has worked.

Senator **Boschwitz**. The student loan program, which is not the subject of our inquiry, has had some rather large failures, including some rather large delinquencies. But the idea of a bank selling its loans through a Federal agency who goes out and sells it to yet other people has worked fairly well and has done quite well in the farming community.

Mr. **Rolfstad**. We have one difference here. In the student loan program we are investing in the future, which is an intangible thing through the education. But when we make these permanent structures we are putting an encumbrance on the property, which I think would eliminate much of the problem of delinquency, because if they were going to transfer the land or whatever, eventually you would have payment.

Senator **Boschwitz**. There has been some sizable delinquencies in the student loan programs. We are nailing that down, too, believe me. I don't like it when we give a person an opportunity to educate himself or herself—and make more money in the future—and then they duck out on the obligation. It's not my style.

Senator **Jepsen**. Thank you very much.

Senator Boschwitz. Now we have to listen to your brother. That's nepotism.

Senator Jepsen. We have been going for an hour and a half. We will take a 5-minute break and then we will come back. So 5 minutes and then we will reconvene.

[Recess taken.]

Senator Jepsen. I have known our next witness all my life. He is my brother. And whereas we are getting some national attention about people who can't be responsible for what their brothers do, that works both ways. That works both ways; I want to emphasize that.

I'm very proud and pleased to have Mike testify. Jim Sage mentioned the fact that there's something about owning property and caring for it and tending to it and being stewards of the soil, and I think we learned some of those things from our father and grandfather. I know Mike practices it and some years ago he was named Iowa's Outstanding Young Farmer. As objective as I can be, I do feel he is a good farmer and we do practice soil conservation. He is now going to testify, and I welcome Mike. Thanks for letting us come out to your farm afterwards and look at some of the very extensive terracing.

Senator Boschwitz. I want to just mention, Roger, that you have salted this audience with your relatives. I have met some of them during the very short break here. I also met Harold Mohling who spoke to me about the problem that young farmers have. That young farmers who came in at a high cost of land and have a great deal of overhead, and he pointed out that the needs may be different for people who are in that kind of a situation. Perhaps some of our witnesses will address that particular problem.

We get a lot of our ideas, as you well know, Roger, in the hallways during breaks, and I certainly invite anybody to come up and chitchat.

STATEMENT OF MYRON JEPSEN, CEDAR FALLS, IOWA

Mr. Jepsen. First, I would like to personally, as a farmer, thank you gentlemen and this committee for coming out here and listening to us. I think the important part is that you are willing to no only listen, but to learn and share our soil conservation problems which is probably one of the most important things that you coul do. And probably as a farmer we are the weakest in public relation and educating, if I may use the word "educating," the general public on farming, farming techniques and what actually are our problems in farming today. So I'd like to open and commend you fo coming here today and holding this hearing.

The second comment I would like to make is that I apologize for no having a written statement, and my very reason for not having it that I was delayed, I have been working very hard in starting a so in-law and a son in farming, and I can answer a specific statemen which you just addressed.

I challenge anyone today to tell a young farmer how he can g started farming on his own. He cannot. We have been to the Feder Land Bank, we have been to FmHA, and with all of the rhetoric th goes around about wanting to help the young farmers get started farming, it is not there. The only way these young farmers can get started farming is if a father or some relative or some close friend can help them get started farming. And with the present prices today and what they have been in the past couple years, it's tough for the father, believe me, from a personal experience.

Senator **Boschwitz**. Let me comment on that, and that goes back to Jim Sage, I believe, who talked about the estate tax problem. I think it has been addressed to some degree with respect to the farmer.

One of the first things that Roger and I did when we got to the Senate is to get the capital gains tax taken off. The capital gains tax was loaded on top of the estate tax. That has now been achieved. And I am very, very committed to the idea of either greatly reducing or abolishing estate taxes.

Estate taxes were introduced in 1916 because they wanted to prevent the accumulation of wealth within a few hands of a few families. But, you know, today it's not the family, but it's pension funds and trust funds and lots of corporations that are accumulators of the wealth and not the individual. The individual, on the other hand, is still being taxed as though he were the principal accumulator of the wealth. And the estate tax is in a certain sense almost reprehensible, because it taxes what a person has accumulated beyond taxes in his or her lifetime.

Mr. **Jepsen**. A very good point. Along that same line, I can comment that just this past week we are planning my son to come in in partnership. If he buys 30 percent of the cow herd, the cattle, the hogs, the machinery and everything, he has not investment credit available to him. And I think that Roger has been addressed about this on the estate and a son buying the machinery say from his mother. He has no investment credit.

If he went to an implement dealer and bought the same machinery, he would have investment credit available. It's a discrimination against that son. The same way with investment credit now with my son buying an interest in say 30 percent. So we added 70 more cows and calves to the herd this last week, and he borrowed the money and paid the bank—or borrowed the money and paid for an equivalent of 30 percent of the total cow and calf herd by paying for 41 of these 70 cows and calves. So it really puts a hardship on these young people, and that's just another small specific example about these young people not being able to get started in farming without some help.

Well, we are deviating from the purpose here. And I would like to address what I think is one of the main problems of our soil conservation today. And in the end the farmer is the real person that gets the responsibility put on his shoulders. And so, therefore, I'm talking from the standpoint of the landowner, as an operator/manager and as a tenant.

A point I would like to make is the biggest problem it seems is money. Where are we going to get the funding to carry on the soil conservation practices that are necessary? Now granted, there are a number of farmers that even if they had adequate funds and the money available to them, there's a certain element that never will carry on some of the management practices that they should have. But, on the other hand, I would have to address what I think is the largest majority of the farmers that would carry on soil conservation practices such as terraces and contour farming and other things that would consist of a capital outlay.

And I challenge this committee to take this back to Washington, D.C. And, of course, you people are aware of this. But the fact is when you operate a business, you have to operate a business and make a profit. And you have to have that profit before you can spend capital and reinvest it back into your business.

Now, for example, these terraces that I put in last spring, what we call here in Black Hawk County "hump" terraces—I guess there are other names for them—we did this on approximately 30 acres of land that was a watershed there. OK, to build the hump terraces, that's not a large item, possibly, but what was much larger was that the tile to drain the surface water away, the tile system was what really cost the money. A little over $10,000 on those 30 acres.

Now the point was made that it's important to have adequate drainage before you build these terraces. And you also, of course, have to have the main lines carrying the surface water underground. The terraces themselves only cost about $2,000 to $2,500. That's the main advantage of this new type of terrace. Its cost is considerably less than the previous bench terraces or years ago the cut-and-fill terraces. There are many other advantages, too, I won't get into.

So actually, the cost of this was somewhere in the area of $435 to $500 per acre capital investment. And when we are selling our product, our food, our corn mainly for less than the cost of production, we just don't have the money left over to put capital investment into this land. So you can criticize the farmer for not doing some of these things. You say, "OK, we have got the Soil Conservation Service, we have the ASCS and we have cost sharing." And I don't mean to criticize our county committees, they are working under extreme hardship with very limited budgets, but the cost sharing on these terraces and this tiling that was required to drain this water is somewhere supposed to be in the area of 60 to 70 percent, and it actually ended up that it amounted to 22 percent was the cost sharing on this that I secured.

They limit it per farm in this county to $3,000 per farm, trying to be fair to all farmers that are interested in doing some work.

So we get back to this money problem. And I say that for a majority of the farmers that are interested in doing something on their own, the majority of the farmers that are interested in not having the Government tell them what to do, for the majority of the farmers that are interested in not having it dictated to them what the ceiling price is on their corn or regulating their prices of corn, and I speak of corn, because corn is the basic commodity, here underlies the basic price structure of your hogs, your cattle and everything else in agriculture. And I say to you that as long as Government is interfering with the pricing or the free market system of corn, I don't think that anyone can justly criticize the farmer for lack of soil conservation. Because the administration, present administration is not tuned in. Present prices have come up recently very rapidly, and I challenge that if you really check the cost of production figures, they are now only in line approximately with break-even prices yet. They are not going to help these farmers that had to go borrow $100,000 to $150,000 last spring to plant their crops and pay 15 to 18 percent interest.

Senator **Boschwitz**. Unfortunately, some of those upsurges, price upsurges is on the backs of other farmers who haven't been quite as blessed with the cloudy skies and rains.

Mr. **Jepsen**. You see, this is what they don't understand. People don't stop and think. They say, "Hey, the farmer is getting $3 for his corn now, or hey, he's getting $75 for steers now." The reason that steers are at $75 and corn is at $3 is that the supply is down. A lot of farmers don't have that corn to sell, that $3 corn to sell, and they don't have $75 steers to sell.

Senator **Boschwitz**. That's why the price is up.

Mr. **Jepsen**. That's right. But a lot of people don't stop to figure that. They figure the farmer is getting rich because he has got $3 corn now and he has got $75 cattle.

Senator **Jepsen**. We need to keep on the conservation topic here.

Mr. **Jepsen**. Yeah, OK. This is the disadvantage of not having notes.

Senator **Boschwitz**. I have heard this all before from him.

Mr. **Jepsen**. Well, I would like to first suggest that if at all possible, if the farmer can't fund his own conservation practices, this is what I would like to see and recommend. And by doing this we need better prices for our products.

Let me summarize. As an alternate source, instead of establishing new bureaucracies and more and different programs, it seems to me that we could operate through the present Federal Land Bank and FmHA and provide specific low-interest loans if they need to be for specifically soil conservation work.

I also feel that if the Government and this administration is going to persist in setting the price of corn, then they have to hold up to their responsibility and not let it be known that they are going to cost share 60 or 70 percent of these practices, and in essence then they limit the money. They have to put the money where their intent is. But I would rather see you let the farmer do it on his own.

I think with these comments I will close here. And I know that I wasn't very well organized, but I wanted to pass today and you insisted that I make some comments.

Senator **Jepsen**. I don't need to ask you the question about voluntary mandates. You understand some of my past remarks that I have made regarding Government involvement. Do you have anything?

Senator **Boschwitz**. I have been contributing along here, so I have no further comments.

Senator **Jepsen**. Thank you very much.

Our next witness is Robert Sieglaff, Black Hawk County farmer, again who I have known for many years. Thank you, Bob.

Senator **Boschwitz** This is Black Hawk County, isn't it?

Mr. **Sieglaff**. Right.

Senator **Jepsen**. Do you have copies?

Mr. **Sieglaff**. I have a copy, yes. I do have a couple comments at the end of it, which you don't have a copy of, which I would like to leave with you.

Senator **Jepsen**. That's fine. Thank you.

STATEMENT OF ROBERT L. SIEGLAFF, WATERLOO, IOWA

Mr. **Sieglaff**. I appreciate this opportunity to be able to testify before a Senate committee on the very valuable subject of soil erosion.

In order to lend validity to my comments, let me introduce myself. I am Robert L. Sieglaff, 3476 Inverness Road, Waterloo, Iowa. My occupation is farming as it has been for the last 40 years. I still farm the land on which I was born over 57 years ago.

My experience also includes 20 years on the Black Hawk County Zoning Commission, the last 13 years as chairman. I fully subscribe to efforts being made by the farming community to control erosion.

You have heard many techniques and procedures are now available to the farming community in the form of equipment, higher horsepower tractors, a broader spectrum of herbicides and insecticides, and a growing experience with the techniques.

I know from my own experience that efforts must be made to reduce the soil loss and that many of the procedures are practical and effective.

Without a doubt the need for soil conservation exists and the importance of devoting our attention to that problem deserves our concern and effort.

Something just as damaging as soil erosion exists as a threat to our primary natural resource, the soil.

My concern is the attrition which is taking place in the form of farmland diversion to nonagricultural uses. It reduces our effectiveness to feed ourselves much the same as soil erosion. I call soil erosion the vertical erosion that goes on. I call the diversion to other uses a horizontal-type of erosion. I wanted to make the distinction. This is something I invented here just on my own.

The insidious part is that our prime farmland is usually that least subject to erosion, and they are the most efficient in producing food and fiber.

At the present rate of diversion the 30 or 35 million acres of farmland which could be brought into production will be used up in 14 or 15 years.

There is a growing awareness of the critical situation which our food production capacity is rapidly facing. However, we may find ourselves too late in taking the remedial steps——

Senator **Boschwitz**. The 35 million acres, is that a national figure?

Mr. **Sieglaff**. Yes; this is a figure that is used in determining how much land which is not presently being used for agriculture which by various techniques can be brought into the food production chain.

The State of Illinois only last month held a Governor's Conference on Agricultural Land Preservation. Having realized the State was losing 100,000 acres to nonagriculture land uses every year. The outcome is obvious. Our soil is a limited resource, both in depth and in number of acres.

Some have said 5 out of 10 jobs are directly related to agriculture.

In Waterloo virtually all jobs are agriculture related. Those who work at the task of building farm equipment need the services and support of the entire community to enable them to function efficiently. The doctor, lawyer, merchant, insurance agent, banker, or ministe all serve to produce the equipment which in turn produces the food.

When the primary objective of sufficiency of food has been achieved, those activities of a cultural nature may occupy our time and serve as a relaxant and also a stimulant to our very beings.

Once we have lost that ability, the process is virtually irreversible and the decline becomes precipitous. These are sobering thoughts and somewhat akin to calamity forecasting.

Unfortunately, simple logic leads us to that conclusion.

The strange part is that we are so lackadaisical about the situation.

Government programs have served to accelerate the process.

One: The unwise choice of right-of-way for highways.

Two: Large acreages for governmental buildings and facilities.

Three: Disregard of farming community in annexation measures.

Four: Slowness of community leaders, both rural and urban to recognize the problem and its implications.

Five: Government policy and programs which have been based on the "cheap food" concept.

Six: The intrusion into the agricultural economy by our legislatures, State and Federal for political expediency. Embargoes, inheritance taxes for example.

Seven: Our failure to recognize agriculture as the "Queen Bee" of our existence and without her good health and viability, our existence will cease without question.

What must be done?

New ideas must be developed and implemented in the area of land use. The redevelopment of our blighted residential areas must be actively undertaken.

New concepts of housing which will provide the amenities and also bring to the householder living conditions which foster the soul mending and spirit rebuilding which those who have moved to the suburbs are seeking.

Black Hawk County has for several years actively endeavored to protect its prime farm land only to have a poorly thought-out scheme for a highway take 550 acres of our best land and leave many other acres in such a position or to render them very inefficient in their use.

I think the Federal and State Government must pass enabling legislation so local administration can actively and successfully implement agriculture land preservation procedure.

The people need to become aware of the potential harm that awaits over continued rapid diversion of agriculture land to nonagriculture purposes.

This is going to be difficult because as humans we act in response only to crises. In this case the crises is also the end.

The term "highest and best use" is for the most part the production of food.

What I have said in many instances applies to need for erosion control for when land is lost through erosion or diversion the result is the same.

I realize that the aspect of soil use which I have dwelled on is not strictly within the confines of the soil erosion concept.

Let me say then in summary that there is such a thing as horizontal erosion as well as a vertical erosion, and that our soil resources are finite, our soil resources are diminishing, and our very existence as a nation and as a people depend on that resource. An example of the threat is the Ogallala Aquifer, which will probably dry up in 10 to 15 years and which provides 12 percent of our Nation's grains.

We have a need to maintain a perspective in the area of causes and effects. One of the causes of land neglect is economics. The role of the Government in that area, cheap food policy at the end, for instance, the effect on the beef industry that occurred several years ago when people were jawboned into not eating beef in an effort to reduce the price of that product, it was effective to the extent that many of the small producers of beef on rolling land which was protected was thereby diminished and many people just went out of business, many of the small producers. So what we see on one hand, we are trying to help one sector of our economy or our people and we are in reality having a detrimental effect on another aspect of that economy. There is no such thing as a free lunch.

Also the inheritance and property tax and their destruction of capital development formation. And the intrusion in the marketing sector for political purposes. I think we have to take into account many causes and effects, and both the private and public sector plays distinct and important roles.

Some of you may have seen the comic strip "Pogo," and one of his comments was "We have met the enemy and he is us." So really the responsibility lies with you people, with us and understanding what the Federal Government and State governments do in the way of legislation, how they affect in reality something that you are talking about today, that they are related, there are economic factors involved, and how you people and the way you define and enact laws has a direct effect on what you are working on today. They are not unrelated.

I thank you for taking this opportunity to listen to me. I hope that what I have said is of value. Thank you.

Senator **Jepsen**. Do you have a comment to make on whether you feel soil conservation programs should be on a voluntary or nonvoluntary mandated basis?

Mr. **Sieglaff**. Well, I'd like to see them on a voluntary basis, and I'd like to see the farmer getting an income on which he can support this process, rather than it really being held to a point where he can virtually only exist as a family unit by mining the soil. I think that that has been the policies of the Government in relation to food production, and they have been such that there is very little money left over for these processes which we have been talking about. And I have developed this separate from what Mike and Jim have talked about. And you can see that we have the same response.

Several years ago—some 30 years ago—my brothers and I went into an earthmoving business, primarily devoted to soil conservation. We did some work on the Jepsen farm and many, many other farms. And we could readily see at that time what was occurring there as far as those people were concerned. They needed this work done, and we were thoroughly involved with it, we were behind it; we did it on our own farm without Government help. But not everybody can do it and not everybody is willing to make that sacrifice, in reality taking from the family to do those things. Their family will come first. So it's a long answer to a short question.

Senator JEPSEN. Senator?

Senator BOSCHWITZ. Mr. Sieglaff, I enjoyed and learned from your estimony, and on page 2, you said we are all involved, the doctor, awyer, and merchant. As you know, I am a merchant and very much ognizant of the impact of farming on the rural economy, and what Mike Jepsen said, that being the impact of prices on the community as a whole.

May I ask one other question, and it may show some ignorance of farming, of which I don't claim to be an expert, and maybe I should talk to Roger about it. You talked about high-powered tractors, on the first page. One of my cousins, who is an engineer, at one time wanted to develop a tractor or piece of farm equipment that would inject the seed rather than plowing up the ground. Would that have any impact on conservation?

Mr. SIEGLAFF. Well, it's a long, involved procedure. Some soils do not have to be disturbed because of their makeup, and some soils will have to be disturbed because of their makeup.

When we talk about chisel plowing, by and large that requires quite a bit of horsepower to pull these, depending on what kind of soil types you are working in. That's why I am saying higher horsepowered tractors have helped really as far as that aspect is concerned, being able to implement some of the soil-saving techniques.

Senator BOSCHWITZ. Thank you very much.

Senator JEPSEN. Thank you very much.

At this time, I ask for a show of hands from the audience on how many people would like to go on the conservation tour with us. The reason we must do this is that the Hawkeye Tech people need to get an idea of how many to provide transportation for. Transportation, as I understand it, will be provided from here and return, is that it?

Mr. MCCARTHY. I would think so. Is that correct, Jim?

Mr. WILSON. Yes. It's through the Black Hawk County Soil Conservation signing up the tour. But they would like a show of hands of how many are going on the tour. Raise your hands real high so we can see. About 15. OK. Thank you.

Senator JEPSEN. At this time, we introduce Harry Scurr. You are our Gilman Soil Conservation Commissioner.

Senator BOSCHWITZ. Is Gilman also in Black Hawk County?

Senator JEPSEN. No.

Mr. SCURR. Gilman is in Marshall County.

Senator BOSCHWITZ. Is that where Marshalltown is?

STATEMENT OF HARRY SCURR, CHAIRMAN, TAMA COUNTY SOIL CONSERVATION DISTRICT AND VICE PRESIDENT, STATE SOIL COMMISSIONERS ASSOCIATION, GILMAN, IOWA

Mr. SCURR. Right. But I represent Tama County, so if you can figure it out, you are doing well.

As chairman of the Tama County Soil Conservation District and vice president of the State Soil Commissioners Association, I would like to thank you, Senator Jepsen, for the concern you have shown toward the soil conservation program in Iowa.

Early in the 1970's, a project was started by the geological survey in a watershed of approximately 12,000 acres in North Tama County. Today, it is called the field evaluation project—FEP—by the EPA.

The Iowa FEP is an expansion of a current study supported by EPA at Iowa State University where background information on pollutant loadings and transport has been gathered since 1975.

To commissioners and farmers, this project in Tama County is known as the Four Mile Creek project.

At the beginning of the project, nearly one-half of all ground preparation in the project area was done by moldboard plowing. To encourage farmer participation in this project, cost share has been set at a 90-percent rate. Farmer pooling agreements in this particular watershed are requested so that dominant practices can be effectively established to replace the less desirable practices in terms of soil conservation. Cost sharing enhances farmer participation.

With the use of different BMP, or best management practices, or conservation measures on sub watersheds in the total watershed area, research would determine which practices would most effectively control soil, water, chemical, and nutrient loss. Total cost per acre of control can be obtained to find out which practices will do the most good for the least amount of money.

To date, approximately $551,000 have been allocated in cost share money.

In 1980, 71 percent of all row crops planted in the Four Mile Creek project area were planted under some type of minimum tillage.

Other practices used in 1980 have been:

Row crop acres:	Percent
Contouring	11.4
Strip cropping	3.8
Terraces	6.1

Minimum tillage is one of the least expensive methods of control and could be used to great advantage for soil loss control but cannot do the total job on the steeper slopes and needs to be combined with other practices such as terraces or strip cropping. The accomplishments in 1980 are as follows:

	Acres
Terraces	628
Permanent pasture seeding	20
Strip cropping	457
Minimum till	8,413
Contouring	1,378
Water impoundment	40
Sediment retention	--------
Seeding waterways	2,640
Stream protection	--------
Animal waste	--------
Total dollars spent	$551,000

Total acres of terraces needed would be approximately 706 acres per year or a total of 3.500 acres over a 5-year period. As you can see, terrace construction is a slow and costly project. Thus the need for cost sharing and funding. This will make minimum tillage even more important to provide time for terracing work to be completed.

This total project is one of a kind in the United States, but the results of the research would be valauble throughout the United States.

On some soil evaluations done by the Tama County soil conservationist it was estimated that at the present rate of soil loss, the topsoil of Tama County in some areas will be gone within the next 24 years, unless soil conservation practices are improved.

Also noted from the Poweshiek County 5-year or long-range plan of work is the statement that within the next 17 years productivity of many soils will be affected unless soil losses are reduced.

Present indications are that on December 31, 1980, EPA is going to withdraw its support and funding of the Four Mile Creek research project. Originally the project was to run from 1979 to 1983.

From the EPA, August 1979, Newsletter comes this statement: "To ensure that before and after effects of BMP implementation are sufficiently characterized, the project is planned to run at least 5 years."

The best estimate in 1979 indicated that between $625,000 and $1 million will be required by ASC over the lifetime of the project. This was for 1979 to 1983 for cost sharing.

It seems only logical to the Tama County soil commissioners to finish the project in light of the previous research and the practices that have been initiated and implemented. Public participation is high at this time but without funds the project will, of necessity, be dropped.

It seems highly impractical and shortsighted to drop this project and start a new project elsewhere. The research gained now will be invaluable in years to come. Therefore, Senator Jepsen, we are seeking your support for this program and request that you determine if additional funding can be obtained.

An additional issue that disturbs some of the soil commissioners in the State of Iowa are some of the policies that the agriculture lending institutions have concerning lending money on real estate. With farmland values at the present level and the low market value of products produced by farmers, it has become necessary to intensively farm the land in order to make payments. Many commissioners would like to see Federal land banks and other lending institutions not only loan money for the real estate but also money enough to put conservation practices on the land to bring soil loss down to allowable soil loss limits. This would ensure that by the time the farm was paid for it would still be capable of producing to meet the future needs of our country.

I feel that maintaining our soil's productivity capacity is a very important step in our Nation's role as one of the world powers. A hungry nation will be an unsettled nation. As commissioners we believe we would all like to maintain our productive capacity at its present level rather than be faced with problems similar to countries where topsoil is gone, large agricultural imports are necessary, and hunger among the people are everyday occurrences.

We thank you for your support in the past and the Iowa Association of Soil District Commissioners will look forward to working with you in the future.

Senator JEPSEN. Thank you, Harry. Again I will ask for a comment on voluntary versus mandated soil conservation practices.

Mr. SCURR. Well, speaking for myself and rot as an association member, I think the time is coming when we are soon going to lose our voluntary compliance. But I think in time we are going to have to come to the place where we are going to have to be more mandated on it. But that's just a personal opinion and not as an association member. I'm sure the association will still stand behind the freedom of choice on the matter.

Senator Jepsen. Do you know why the EPA is withdrawing the funding for the Four Mile project?

Mr. Scurr. I have no idea, sir. It seems to me, you know, where Iowa State has had the research for years in the past, if we could get the work back, get all the ground covered and get the research after all the practice has been put on the ground that it would be well worth everybody's time and money. You know, not just in Iowa, but elsewhere. Because what the university learns there is going to be a value to everybody.

Senator Jepsen. Were you there originally when the funding was made by the EPA? Do you know how EPA got involved in the first place?

Mr. Scurr. Sir, I can't answer that question for you, but there is a man here that can, and he is going to testify later, and he is with the university.

Senator Jepsen. Senator Boschwitz?

Senator Boschwitz. Roger, if you will take a look into that project, I will be very happy to support your efforts, whatever they are. You say that the options of voluntary compliance may be escaping the farmer, and you talk about farm prices. You, however, I presume believe that in the event that the farmers do have adequate pricing for their products that they would do so, that they would take care of their land?

Mr. Scurr. I think a certain percent of them would. Of course, there are going to be those that have a real interest in conservation and preserving their soil for the next generation and perhaps the family farm, this type of thing. But you take some of the large operators that want to go from fence row to fence row, and usually in that type of operation their expenses are to the place where they about have to do that type of an operation. Especially with the prices that we are getting for our products now.

Senator Boschwitz. In just a word or two, you talked about moldboard plowing.

Mr. Scurr. Right.

Senator Boschwitz. That is not a term I am familiar with.

Mr. Scurr. What it does, it covers all the trash on top of the ground. It puts black dirt on top and covers the crop residue from the previous year and it leaves no protection whatsoever on top of the ground. It's just black soil. And wind is one of our eroding factors we have to consider, also. And with residue left on top, it will help protect the soil.

Senator Jepsen. You plow the ground and you hope you have a big snow in the winter and not very much wind so you don't get a lot of soil erosion.

Senator Boschwitz. I know that the farmers plow the land in the fall. I presume that that does not help erosion.

Senator Jepsen. With a little snow and a lot of wind it's very serious.

Ms. Snyder-Smith. I have a comment about the field evaluation project. I know one of EPA's rationales is that the USDA or SCS should be more involved in that type of project than EPA. They hope that SCS will pick up the entire project. As we mentioned earlier, SCS is losing far more money than EPA is.

I don't know if we will be able to get any of the money reinstated, but we have talked to the committee as we feel that the Four Mile project is one of EPA's more worthwhile projects.

Mr. SCURR. I certainly think it is, too. Speaking of the SCS, another thing that maybe has been mentioned before I came here, but where they are losing so many personnel, they can only hire 4 for every 10 that are retired or go to another job. It's making it very difficult on these districts to get the work done.

Ms. SNYDER-SMITH. Exactly. We have been fighting that the last couple of years.

Mr. MCCARTHY. You made a comment at the end of your statement about trying to see if elements of the Farm Credit System, for example, would become more involved in not only Federal land bank lending for real estate, but also for conservation work. As I understand it, the Production Credit Associations can make short- and intermediate-term loans for soil conservation work. Is there something in particular—we are going to have several witnesses in the next couple days representing land banks and PCA's, and I would like to follow up with them—that you could suggest that either the land bank should do? It may not be the way the system is structured that that could be causing the problem with the funding. It may be we have to work more with the PCA's in encouraging them to expand what they are now doing. They have probably a great deal of flexibility to do that. But I was just curious if you had any other comments to make on that project that might help us in looking at this.

Mr. SCURR. The only statement that I'm going by is one that was made at the association meeting and was brought up by another man. It's not my idea at all. But I do think it's a good one. His thought was that if they are going to go far enough to loan money on the real estate, let them go far enough to loan the money to put the conservation practices on the ground to bring the soil loss down to within the soil loss limit. Now as for implementation, I have no idea how you do it. But it's something that maybe should be worked out.

Mr. MCCARTHY. One of the reasons I bring it up is, as the Senator knows, we have a major farm credit bill that is still in the works in Congress. It's progressed along, but we still have the opportunity to ask that something be included in the report language that specifies that the system look very closely at this, and that's why I am interested. We will follow up on it for sure.

Mr. SCURR. Something else, if I could have 1 more minute, that has been kicked around a little bit and talked of some. The money to do this conservation work is always scarce. And it's very hard to get it, I'm sure, through USDA and through the Congress. It's been asked if it would be possible if there is some way through the tax, maybe through the food dollar, maybe a mil or something through the food dollar, I don't have this thing worked out or well thought of, but a conservation tax on the food dollar and everybody, the farmer as well as the people that live in town, everybody is going to have to pay. But it's going to make—if we could get the funds to get this work on the ground we will maintain our soil to the place where our food will not get as high as it is in other countries. And I think it's something that might be also looked into.

Senator JEPSEN. Thank you very much.

The next witness to testify is Rolf Craft of Decorah, Iowa, a farmer.

Mr. CRAFT. Do you have copies of these? I apologize, this is not typewritten, it is just a copy of the notes, but I think it will assist you in following this.

Senator BOSCHWITZ. You mean you do not have a secretary?

STATEMENT OF ROLF CRAFT, IOWA STATE SENATOR, DECORAH, IOWA, AND PROFESSOR OF ECONOMICS, LUTHER COLLEGE

Mr. CRAFT. I am afraid State senators do not have a staff that Federal Senators have.

I appreciate the opportunity to speak before you today, and by way of introduction, I operate 700 acres in Winneshiek County, Iowa. If my wife and sons were here, they would probably challenge the statement that I am the operator. But I do farm there. I am 6 miles from Minnesota, so I'll probably address both of you a little more directly than some of the others have.

I'm also a professor of economics at Luther College and a member of the State legislature. So the strange set of concepts I have put together probably will reflect the motley background from which I come.

I have been familiar with soil conservation for some time. I grew up 7 miles from where I am now, so while I don't live in Black Hawk County now, I grew up in this area. My first experience with the soil conservation area was when they laid out the contour lines on the home farm, I suppose it was the early forties. Two of us could walk parallel to the fencelines to set out the back furrows when we started plowing the contour. My father was quite active in the early days of the conservation, and so I have been familiar with it every since I was a child.

I'd like to look basically at conservation as it fits in with the broader set of arrangements in the economy. I think if you will look in some other countries, countries that have been around a lot longer than we have, you can see the impact that different kinds of systems have had on incentives to conserve soil.

Without getting too deeply in this, I have had the opportunity to look at India. You have some common properties in India which are owned by no one, they are communal properties, there's absolutely no incentive whatsoever to conserve on this land. The first person that gets there exploits what they can from these kinds of properties.

Also, if you are looking at a country like that, people who are strapped for their very existence have a short-time horizon. Their planning horizon is simply to stay alive for a short period of time. Very logically, they have to exploit the soil as much as they can. But at the same time in the same country you have people who do not have to worry about the day-to-day existence, recognizing the economic values and that it does pay in preserving and building up the soil. In the same country, with different kinds of environmental factors, you see very outstanding kinds of soil conservation put in place in the way of terracing, soil conservation and so on.

I think that what I am alluding to, in the last year or two we have had a tremendous amount of publicity on how great soil conservation is. I would argue that as demonstrated through public and private policy soil conservation is not as popular as we would like to believe. We will get into some of these reasons, but the press has been much more cognizant I think of saying that we have to produce more and more.

The kinds of Government programs, and I will get in a little more detail later, that we have had, have not been that useful in promoting soil conservation as much as we might like to see it.

There are several incentives to soil conservation. One is the stewardship, be it for God, for country or mankind. This is an important one that over time can be very important.

Another reason for incentive for soil conservation is the much more mundane and secular one of adding to current income or increasing your net worth. As an economist who teaches at a church-related college, my unfortunate observation is that we generally respond more to the income incentives than we do to the stewardship incentives.

However, I would stress that in the long run education is a very useful and important aspect. And I'm going to suggest that you continue educational programs. This is long range. But the quickest response we have seen historically is response to price incentives that we can pick up through the marketplace, as we direct Government incentives such as we have seen in some areas in the past.

Looking more specifically at the last two, the Government has different alternatives. They can do nothing or they can use positive incentives. You have been using some of these. You have cost sharing and you provide technical support, and I believe these have been very sound investments. At the level that we have been investing in these areas the payoff has to be very large for the public sector.

I think some other people can address more specifically some of the problems here. Sometimes we are tied too closely to design capabilities which add a very large amount of cost of a particular project without adding perhaps a whole lot of soil conservation.

I have just finished some significant terracing on my farm. I have had, like many farmers do, some hassles with the technicians; if we could just straighten that one out here, if we could run that tile in a little bit smaller line to tie in with another line we would save an awful lot of money and probably do just as good. Some of the restrictions we have on this do add significantly to the cost.

Senator **Jepsen**. Who places the restrictions?

Mr. **Craft**. Basically that would be the Soil Conservation Service. I would argue with the technicians, and there is give and take. But I'm sure if they are inspected, like anyone else, they have to ensure that they meet the rules and so forth. But I think particularly public acceptance would be greater if you could straighten out some of those curves. A lot more farmers would be willing to put those terraces in, and it wouldn't take a whole lot of earthmoving in some of those cases.

I think we do need research. Particularly, and I'm speaking now as an economist, we do need physical science research, but also I think we need economic research. The payoff to both public and private sectors varies a lot depending on the soil type, depending on the kinds of cropping programs you have.

I think we have to evaluate this. I want to see the Government get the biggest return on their money. A terrace on one type of land simply does not give you the return as it does on a different type of land.

I think it might be very difficult to administrate something like this, but in the State of Iowa we have corn suitability ratings on all our sales. In fact, we assess our farm property on the basis of soil maps. It might be something to look into, although it would add to some of the administrative tangles.

I would also like to stress that the farmer's part of the total economy, our incentives to participate in measures that pay off over a long time, are very much influenced by the general economy. If you have a 10 percent interest rate you have to have at least a 10-year payback. If interest rates go to 20 percent, you have to have a 5-year payback, or actually shorter than that. Interest rates in the long run are tied to inflation. You have got to have greater certainty in planning.

If you checked the offices in Iowa, I think you would find out that soil conservation work in Iowa is down considerably from what it was last year. Uncertainties keep people from making long-term investments. And I think, as you are aware with all small businesses, you don't want to make a long-term investment if the uncertainties looking down the road are too great.

So the Soil Conservation Services do have an interest in a stable-growing economy so we know we will be around long enough to pay off those loans.

With the different kinds of programs that we have I'm a little hard-nosed, perhaps. I think some of them pay off so significantly that the technical help is probably all we need. Contouring and minimum tillage have very quick payback periods.

Senator Boschwitz just raised questions about putting seed in the ground. I think in the next few years you will see an absolute revolution in this country. Senator Jepsen knows some relatives of mine by marriage who farm many, many acres with very small tractors and they save chemicals and fertilizers.

My bell has rung. I want to quickly point out some of the disincentives the Government has done, I think, such as disaster payments. I contend these create marginal lands to be put into production. I have a lot of neighbors who say, why does the Government loan some farmers money to clear the woods, loan to them to buy the farm and put everything into corn. We are subsidizing, in many cases, kinds of actions by farmers which are operating against soil conservation.

Thank you.

Senator **Jepsen**. Thank you. The quick, standard question: Do you feel soil conservation should be voluntary as opposed to mandated?

Mr. **Craft**. Yes; I would oppose mandated philosophically, and as a politician very practically. The Government stands in disfavor with enough people in this country. Simply I think practically you would have such a time with a mandatory program that even practically it would not be valuable.

Senator **Jepsen**. Senator?

Senator **Boschwitz**. In your notes you talked about soil conservation practices in different parts of the world, Europe, India, and Japan. You have touched on India in the communal farming. Incidentally, are you familiar with any type of soil conservation practices occurring in Russia?

Mr. CRAFT. No; I am not.

Senator BOSCHWITZ. Are you aware that any soil conservation efforts are being made?

Mr. CRAFT. No; I am not.

Senator BOSCHWITZ. Are you?

Senator JEPSEN. No.

Senator BOSCHWITZ. Can you in a few words talk about Europe and Japan?

Mr. CRAFT. Well, basically perhaps as we recognize that soil is so valuable in spite of what we consider high land prices, our land is still the cheapest land in the world. Over time we will more voluntarily, as the land becomes more valuable, as population growth presses upon our supply, the payoff period, simply speaking as an economist, will increase over time with soil conservation. I think Japan is an example.

Senator BOSCHWITZ. Do you have any questions, either one of you?

Ms. SNYDER-SMITH. No.

Mr. MCCARTHY. No.

Senator BOSCHWITZ. Thank you very much for your most interesting testimony.

The next witness we have is Bart McAninch.

STATEMENT OF BART McANINCH, CEDAR FALLS, IOWA

Mr. MCANINCH. I have three main points, and they will be verbatim from the script that I have. I have a few other comments I would like to make.

Three things that I think need to be addressed, and I think they have been alluded to already, that are needs for protecting our soil and water resources are research, education, and adoption. I think with those three we have the whole problem solved.

First: Research. The basis of the private enterprise system is profit. The major need is to have a crop production and land management system that will allow the owner and/or operator to make a profit and still conserve the basic soil and water resource.

While much private and public research is being carried out, there is still need for more information that will help meet this overall goal.

What are the impacts of various crop production practices such as tillage, crop rotations, fertility, pest management, and conservation practices, not only on yields and profits, but also on soil and water management and the long-term protection of this basic resource? This will necessitate more dollars from somewhere for research and personnel to get the job done.

Second: Education. While there is much information available, there is a serious lack of knowledge by landowners and operators in using present conservation measures, combined with good crop production practices.

In Iowa we are starting a program of preparing a conservation folder for every farm. This can be a great step forward in the application of soil conservation measures except that, being practical, there is a serious lack of qualified personnel to get the job done in the existing timeframe. Properly done, this conservation folder concept could accelerate the adoption of soil conservation measures and the protection of our natural resource base.

With more research information available and a means of disseminating this to landowners, we could then fit a program to specific needs. This would be much more efficient and prevent ineffective programs.

Third: Adoption. Anything mandatory has always had a bad connotation, with visions of Government people out on the land, telling farmers how to farm. But, from its inception, our society has been operated by rules that people set for themselves. With good, productive soil being in limited quantity, we need rules governing how land will be used. In Iowa, we have a good start, but it has not gone quite far enough.

Many of our landowners are already protecting their soils within the limits established for each soil type. In Black Hawk County, a unique organization has been established, known as "Four-Ton Club." This recognizes those landowners who have their soil losses within allowable limits on 90 percent of all the land they farm. To date, about 15 have qualified—and they have done this by using a variety of practices that fit their very own system. Such a program could easily be set up for all of our land.

In essence, we would be saying "adopt any program you want that will fill your needs, yet keep your soil losses within established limits." This, then, would not require specific practices such as conservation tillage, terraces, tree planting, or contouring, but would allow any combination that would fit each individual need.

With such a program, those in our society who do not wish to follow local guidelines, would not be able to destroy our most basic natural resource.

And so that each individual would not be required to bear the entire cost of such programs, allow tax deductions to those who adopt qualified practices. This would be much more equitable than the present system of special allocations, set up by State and Federal Governments, to those lucky enough to apply in time. Lack of funds each year leaves many projects undone.

I am suggesting to you, of course, maybe more personnel and more funds in some areas. But I would point out two other minor points. One is that I do not think, particularly the Soil Conservation Service that I worked for for 30 years, is overrun with extra employees. And I can point specifically that in Black Hawk County, I was the only full-time employee the last year that I was employed in that office provided by the Soil Conservation Service.

Also, I think that a lot of responsibility is put on people who don't get any pay, and I point specifically to Soil Conservation district commissioners, some of who are in this crowd today, that operate pretty much from their own feeling that there is a need for soil conservation. They are not being paid, and yet responsibilities for their time, actually being away from their own usually farming enterprise, but not necessarily, their own business, and I think that the responsibility is getting great enough that somehow these people either need to be paid or there needs to be some appreciation for the time input and the responsibility that they have.

Senator **Boschwitz**. How much times does a normal commissioner of that type in Black Hawk County put in let's say on a monthly basis?

Mr. **McAninch**. I guess there isn't a typical commissioner, but I would say that he would probably spend typically in 1 month the amount of 2 days. Lots of times he puts in lots more than that.

Senator **Boschwitz**. Let me ask you one other question, and again it perhaps is an expression of my lack of familiarity with farming, but how does one measure—you have the "Four-Ton Club", the loss of 4 tons of topsoil in a year per acre. How do you measure that accurately? When somebody applies, how do you verify that he is within those limits?

Mr. **McAninch**. I would never claim to have the intelligence to tell you how to do that in a very short time. It is not all that difficult as long as we use the guidelines that are set up. There is a universal soil loss equation that is set to each soil type. It requires that you go on the land first and make some physical measurements as far as how long the slopes are, how steep they are, that type of information. Then you need to plug the person in as to the type of management he's doing, and from that you get an average annual soil loss. It is impossible to measure soil loss from a specific storm with a great deal of accuracy.

Senator **Boschwitz**. That's where you get into this folder that you spoke about?

Mr. **McAninch**. Yes, the folder proposes to give more resource information to the landowner, but to have this be a useful tool it needs to be properly explained, like anything else.

Ms. **Snyder-Smith**. I appreciate your thought that more people need to be paid, instead of less. Last year we fought technical assistants funding cuts in SCS and we are probably going to fight similar cuts this year, so we appreciate what you are saying, we cross our fingers and hope that something can be done.

Mr. **McCarthy**. One quick question. You mentioned the programs that you would prefer be structured so that they give the widest latitude for a farmer to make the decisions of how he would work within the program—is that correct?

Mr. **McAninch**. Yes.

Mr. **McCarthy**. Would you have a preference as to whether—let's discount the ones that are in existence now—you would rather see growth in that way or a restructuring at the local, State, or Federal level?

Mr. **McAninch**. I think it probably has to be all three. I'm not an expert on that. We've worked a lot on land use in Black Hawk County, and I appreciate the fact the local people have considered soil in establishing ordinances However, I feel from the Federal level we need support. We need some type of backing of a program.

In Iowa I think we already have, and in Black Hawk County I don't think we could have much better responsibility from the local board of supervisors and the mayors and city councils than they have taken, and I think that's where, you know, it needs to be done. But I think they need support from the Federal level somehow and back. I don't know whether you would call it enabling legislation, and I'm not smart enough to know how that should be set up.

I don't think we need a lot more programs or a lot more people. I think we have the framework set up there with local organizations and local people making the decisions, and I think that's where it ought to be.

Mr. McCarthy. Thank you.

Senator Boschwitz. Thank you. I agree with that last statement. You sound like a Republican.

Rus Guhl is next. He is from Shell Rock. Where is that?

Mr. Guhl. Shell Rock.

Senator Boschwitz. Shell Rock. I'm from Minnesota. Where is it in Iowa? How are you, Russ?

Mr. Guhl Up in Butler County. About 30 miles from here.

Senator Boschwitz. Well, thank you very much for coming.

Mr. Guhl. My name is Russell Guhl, I'm a farmer in Butler County near Shell Rock, and I'm a soil commissioner in Butler and also a director on the Iowa Association of Commissioners.

Senator Boschwitz. Go ahead, Russ.

STATEMENT OF RUSSELL GUHL, BUTLER COUNTY SOIL COMMISSIONER, AND DIRECTOR, IOWA ASSOCIATION OF COMMISSIONERS, SHELL ROCK, IOWA

Mr. Guhl. Last weekend we stayed with some friends near Delhi on the Maquoketa River about 8 miles above the dam. Where the river was about one-fourth to one-half mile wide and which was all water at one time, it is now half full with silt building up and grass and weeds growing on it. Near the docks people were walking in mud just about to their knees.

Also when I was in Louisiana the citizens told me the dikes on the Mississippi River were made from the silt that had washed or eroded down from the north.

I have also flown over central Iowa and have seen some tremendous erosion. In our own Butler County we've had extreme erosion and have it recorded on slides. In Butler County we have 305,000 acres of cropland and two-thirds of this is above the soil loss limit of 5 tons per acre. The average soil loss in Iowa is 9.9 tons per acre and acceptable is 3.5 to 5 tons. I was very surprised when I saw a resources inventory chart showing Iowa as the top or the worst State in the Nation with soil loss of 261 million tons soil per year. With 22 million acres of corn and soybeans, intensive farming is exposing our land to erosion. We're exporting our land through our crop. We need to keep our soil where it is now in order to feed our country in the future.

We have lost one-half of our topsoil within the last 100 years, according to the Iowa Department of Soil Conservation. We have 6 to 8 inches left on an average. We're losing one-fourteenth inch pe year or 1 inch every 14 years. And some of us even on some of the rolling ground have clay hills now already, and rocks.

Our needs for conservation.—In Iowa we have 1.2 million acre terraced and 7 million acres needing terracing. Our job is one-sixt complete. In Butler we should be terracing roughly 442,000 feet pe year to reach our goal in 30 years. I have a book here where we mak goals every 5 years. But presently we are installing 125,000 feet o about one-third of what we should be.

We have a similar situation for conservation tillage, erosion control, structures, strip cropping and other practices. And our current rate of accomplishment is only 20 percent of needed rate to protect our topsoil in time.

Combined cost-share budgets of all government agencies in Iowa now are about $30 million annually and the needs are about $198 million annually.

The current direct technical help for applying terraces and so forth is 238 people. This should be increased to 964 for technical assistance. For instance, Butler County does not have a district conservationist at this time. They are leaving this field for greener pastures. And also I hear different reports that we are short and there's other counties that do not have district conservationists, and also the ones that are in training have to go to the field before they are ready, or in shorter time.

In Federal funding SCS nationally is not keeping up with inflation due to cutbacks in funding for personnel, which I gather you folks already know that. The only reason SCS is keeping up to inflation in Iowa is because Iowa is contributing $4.7 million in 1977 and $5.7 million in 1980 for conservation operations and by hiring fewer people.

For the cost sharing, Federal cost-share funds such as the ACP funds have been threatened to be dropped.

Senator **Boschwitz**. You may have inadvertently skipped a very interesting paragraph in which you say that in 1977 SCS had 490 people employed here in Iowa and in 1980 it's down to 380.

Mr. **Guhl**. That's 110 less than what they had in 1977. And this pattern does not show acceleration of soil conservation programs.

Again, the Federal cost-sharing funds such as the ACP funds have been threatened to be dropped. Meanwhile, farmers are applying for cost sharing, but there is not enough.

A few years ago a bill was passed to provide $200 million for 1979 and $400 million in 1980 for a total of $600 million for the 208 program to help with cost share conservation practices on a watershed basis. This was to be completed by 1983, and which the soil commissioners were to have had an active role in this program. But there was money appropriated for funding, $1,500 million for a car manufacturer in 1980.

In 1970 Iowa started a cost-share program of its own with $1.5 million. And in 1980 it will be $6 million. Some counties are also starting to help with some funding to the tune of $774,000 to 32 counties. Some of the county supervisors see the problem and some don't.

Combined, it is still not enough. For total erosion control we need $7 billion.

We also need low-interest loans for young farmers and even older farmers to help save more soil.

Minnesota helped young farmers to buy farms with low-interest loans, and it took $35 million, but very few benefited because of the high price of land. Many more could benefit from low-interest loans for soil conservation practices. We also need tax incentives, which I think that is in the mill.

Do we want to be remembered as people who ignored warnings about depleted soil and greedily mined the topsoil for short-term production? Or do we want to be remembered in the 1980's as the people who made great strides in caring for the land?

We can, by providing adequate funding for the needed trained technical help, for planning and implementing conservation, and adequate cost-sharing moneys to get the job done, and low-interest loans to farmers and through education of the people who work the land. I know that education of people can be kind of a broad statement, too. And to help hold our fertile topsoil on the uplands and on the hills and to slow the water down and keep our streams clean.

Senator Jepsen. Thank you. It's very interesting. I will ask you the same question. Do you feel we should have voluntarily soil conservation and education, or should we have mandatory?

Mr. Guhl. All my philosophical beliefs have been to have voluntary. But as I can see it, I think it's starting to be and going to be some mandatory. Like in Iowa we already have a law where if somebody's silt is running on and damaging somebody else's land, they can be made to put the practice on the grounds and preserve the soil.

Senator Jepsen. If it's mandatory, should it be federally mandated, State mandated, or county mandated?

Mr. Guhl. Well, the Iowa conservancy law that I was talking about is State mandated.

Senator Boschwitz. Well, Senator, I'm going to have to leave after this witness, and I appreciate him, and I would like to make some comments at this time more than in the form of a question.

Yesterday I was out in Kansas with Senator Bob Dole and we had hearings on the nutrition programs of the Government, which the three principal ones we spoke about were food stamps, the meals to the elderly, and also the WIC program; and they, too, made the same comments that you made in your statement. You said SCS nationally is not keeping up with inflation, and I might add that some of those nutrition programs are experiencing the exact same thing—not having any increases. Food stamps happened to be an exception to that.

And they, of course, expressed a need. And when you have a program called "WIC,"—women, infants, and children—it's like being for motherhood and all those kinds of nifty things that get politicians elected, so that you have a hard time being against that even though it has been a rapidly expanding program.

Everybody who is coming to the Government is making the complaints that you are. You pointed out that money was appropriated, funding of a billion and a half dollars to a car manufacturer, which was more in the form of guarantees rather than the money itself. You are looking at two Senators who happened to vote against that because of much the same reasons that you have spoken about.

So we are very much involved in trying to categorize and prioritize the needs of the country and whether or not there are other things of greater importance. I believe that this area of agriculture is very, very basic. I certainly believe that the soil conservation is very basic, and that's one of the reasons I consented to come down and listen to some of my friends from Iowa speak about it this morning.

So I want to thank those who have testified and apologize to those who have not yet testified. I do have to leave; but my attitude is in the ordering of priorities, and I think, Roger, you would probably agree with this, that soil conservation has to be one of the most basic priorities.

I really want to thank each and every one of the people who testified. I have gained from it, and hopefully we will be able to come up with the right thing in the 1981 farm bill that will have a positive effect on soil conservation.

Senator **Jepsen**. Thank you, Senator Boschwitz.

I might add, you have seen firsthand why it is refreshing to work with a colleague like Senator Boschwitz. He tells it like it is, and he is not afraid to stand up and be counted.

Senator **Boschwitz**. You are not saying anything, Roger. I run up across the line.

It was a great pleasure to be here, and I really gained from it. I appreciate your asking me. I'll see you in Washington.

Senator **Jepsen**. I will pause here to advise you as to what the plans are now as we come down the home stretch. We have a soil conservation tour planned. That conservation tour is still on, with some changes. There will be a bus outside of this building, right at the front parking lot, 30 minutes after we recess. There's a cafeteria line, and we thought we would take 30 or we will say 45—30 to 45 minutes for those who want to grab a sandwich and a cup of coffee. Then the bus will be waiting to take you to the conservation mile, not far from here, where many of the things that have been discussed this morning are shown firsthand. The instructor will explain each and every one of them. The bus will take you from here and will also return you back here. So those of you who are not from this area will not have to try to find your way to Hudson.

We are canceling the Jepsen farm tour because of the inclement weather. It has rained quite a bit this morning, and Mike would have to clean out hayracks and get the tractors cranked up and we would all be wading around in some mud to look at some terraces. Many of you have seen them before. We would be very pleased to show them to you at any other time. You are invited to stop by Highway 20, 3 miles west of Cedar Falls. It has been there for quite a few years and it will be there for quite a few more. So you are invited to look at that sometime, but we have canceled the tour today.

The bus will be here and we will go to the conservation mile. I would recommend it to you; it will be very interesting and educational.

Our next witness is Don Boddicker from Vinton. Welcome.

STATEMENT OF DON BODDICKER, VINTON, IOWA

Mr. **Boddicker**. Senator Jepsen and members of the committee, I was born and raised on a farm a mile west of Newhall, and I went through law school and was a member of the bar at age 22. Then I went in the service for 4 years and never did get farming out of my system. I started practicing law in Vinton in 1938. All through the service I looked up to the board of trade to see what corn did every day and beans did every day and what butter was worth and milk and so on.

In 1947 my partner and I decided we were going to farm as a sideline. I have been farming and practicing law ever since. We bought a 200-acre farm west of Vinton 3 miles, and it's quite hilly, and this is where I got my experience that I want to relate to this committee today.

And I'm going to state three things here that I learned very early in my career of farming. I believed them when I read them, I tried them and they work, and when they talk about permissible losses of 4 and 5 tons to the acre per year, this is absolutely ridiculous. You don't need to lose any.

Now in soil conservation literature and USDA literature, as many as 25 or 30 years ago I read these facts, and I believe them, that the present location of all of the soil that's ever eroded is laying within 80 rods of where it originally laid.

Present and past practices of turning this soil uphill and contour cropping and leaving strips, grass strips and an open furrow at the top of these grass strips to catch this dirt that comes down the hill will erase and offset any soil loss. And I have 200 acres to show to prove it. In that 30 years I am satisfied there is no net loss on my 200 acre farm west of Vinton.

Now the present practice is only to retard this with terracing, and this in my opinion is wrong. The past effort on the part of the Soil Conservation people and USDA has not been to keep soil losses zero. It's been to slow it. And when they tell you about 4 or 5 tons to the acre, we know that's what they are talking about, slowing the soil rate of loss.

We need a new primary effort, and the primary part that I'm suggesting that the committee and the Congress really get to work on is moving this soil uphill. Let's get it from 80 rods from where it's laying back up where it ought to be. Now if we have lost half of it in the last 100 years and half of that is laying within 80 rods, and we'll say this is 6 inches of my 12 inches off of my farm, all we've got to do is move 6 inches of that half and we've got three-fourths of it back up there where it was originally.

Now this can be done, at least stopped with the moldboard plow, the stirring plow I call it, that turns the furrow uphill. And why the soil conservationists and the Agriculture Department hasn't pushed that two-way plow that flips over and you can go down the same furrow and go one way and push it uphill and turn around the other way and push it uphill, I can't understand, except that it doesn't use any personnel. It doesn't cost the Government any money. Why farmers haven't adopted what I've done I can't understand.

I'll say this: The first time I had one of their men out that showed me how to do this he sold me a little leveler so I could do it myself, and when we got through with the one field I would swear that I wasn't going to farm over 75 percent of it. He said those strips had to be 20 feet wide or more. It didn't look to me like they needed to be that wide. So I immediately had to abandon them and their help because I couldn't stand the cost. You have to pay tax on this land and so on.

So I found that you don't need a grass strip over 2 or 3 feet wide, especially if you leave a furrow on the upside of that green strip which will catch this soil and hold it from going on down the hill.

Now the other thing I read, which I never forgot, the stirring plow, the one that will turn the soil, is the cheapest way there is to move soil.

And this was published in connection with how do you fill up a ditch. Well, the most economical way, you go out there with a tractor and you plow in and you come back and you plow in until you get it full. That's the most economical way.

Now I put some figures together. In 1977 I had a field that we were going to plow, and I had always plowed this myself because I didn't figure anybody else could figure it out. But I took this young fellow out there and I told him I wanted it plowed uphill. And he had done some work for me, he had plowed another field, and I showed him somewhat what I meant, and I made one round with him and I figured out that he knew what it was about, and I had too much to do in the office, anyway, so I just abandoned him. And I couldn't believe the job he did; better than I ever did.

And when he got through I concluded that he had moved 90 percent of that topsoil uphill. So I did some figuring here. Now it is 1,320 feet by 1,760 feet long, and this figures out to 2,323,200 square feet. He plowed 9 inches deep, so he moved 1,742,400 cubic feet. There is 27 cubic feet in a cubic yard, so he moved 645,333 cubic yards. And just think, look at that field, 50 acres, and you are going to move that whole thing uphill 18 inches. He had an 18-inch plow. We moved it 18 inches. Now this is significant.

I paid him $600.75. That's more than the going rate, but he had done a lot of driving and I know he had taken some extra time and energy, and I figured it out and that figures out to 9-10ths of 1 cent per cubic yard to move that dirt uphill. Or it figured out to just a little less than 7-10ths of 1 cent per ton. Now this was for labor, for equipment, and for energy, and at that rate I know enough about machinery he made a little profit on top of getting paid for his time. So we are talking about something that's economical.

Now this is what we have got to do. We have got to get off of this kick that the soil conservation group has led us on, going out here and toying with the hills and stirring them all up and leaving places where if you get a good rain after they first make them and you put a crop in there, the Atrazine collects down there and you won't grow a crop for 3 or 4 years, and the Atrazine and the fertilizer goes down the tube and into the underground rain. I don't know how the EPA lets them do this in the first place. We have got to get away from that, it's too expensive.

They are working on one that I saw recently, I'll bet it's going to cost more than that land is worth per acre just to put in these terraces. And I wouldn't know what for.

But this isn't why I'm here. Can I have enough time to tell you why I'm here?

Senator Jepsen. Yes.

Mr. Boddicker. We've got to go to an adaptation of tillage equipment that pushes this dirt uphill. Now here, let's take this and say this is a 5-percent slope, and you go down there with any kind of tillage implement, and they are now talking about chisel plows, which I think are sound and they are the thing, and when you plow and you raise any of this dirt you raise it perpendicular with the hill. And when it falls, it falls straight down. So every tillage implement that goes over every field and every ounce of earth that that thing raises up moves downhill.

On top of that, you can put any type of a tractor on there and those wheels are going to move that dirt downhill. Everything tends to move that downhill. And in 50 years you figure out how much that's going to move it downhill and you don't do anything about pushing it uphill and we are accelerating the loss of soil.

Now I don't think this is necessary. I think if the Congress would actually appropriate some significant money to the State colleges and to the implement dealers with the specific instructions that they figure out adaptations which when these tillage implements go down the field, that this ground has gone uphill instead of downhill, I think we could save the soil by this and occasionally with the stirring plow and with other adaptations.

But now we need something else. We need some big, heavy equipment, some of these that will really hold dirt. And they go down here 30 rods or 40 rods, and I have got some places I could show you, and these things would finger through there and we'll say every 2 or 3 inches this thing would go down and slice down there about 18 inches or 2 feet and get into the best subsoil that was there before we ever got here and load it up and take back up and put it on the hill. We wouldn't even cut down on the productivity of the soil if we did this. This would all collapse and you would keep right on raising crops.

Now these are my suggestions, Senator. I have tried to get somebody to listen to me for years. I hope you have.

Senator JEPSEN. That was very enjoyable and very interesting. And I understand that if you have a proper border around the field and the proper depth to catch the soil and contain it within the field and then move it all back up, that is your own soil conservation program that's done the job for you?

Mr. BODDICKER. It sure has.

Senator JEPSEN. You can prove it?

Mr. BODDICKER. I can prove it..

Senator JEPSEN. It's very interesting, and I would hope and expect someone to take more copious notes and maybe contact you and take a look at how you moved that soil around.

And do you feel—just a one-liner answer—soil conservation should be voluntary or mandatory?

Mr. BODDICKER. There is mandatory going on right now. If I'm not taking care of my ground, if I'm not getting the maximum production, I can't afford to own it. And if I'm not taking care of it, it's going to be up for sale. And this guy who is, he's going to own it. I don't think you need to worry too much about whether it's mandatory or not. I think the economics of it is going to take care of it and it's going to put it in the hands of people who take care of it.

Senator JEPSEN. Thank you very much, Don. Very interesting.

Mr. BODDICKER. Thank you.

Senator JEPSEN. The next witness is Norman Adams of Winthrop.

STATEMENT OF NORMAN ADAMS, WINTHROP, IOWA

Mr. ADAMS. I notice one gentleman said that there was hard times with young people getting started farming. We had ads in the paper, we need a young person if you know of a young person.

As far as the Senator from Minnesota, I would like to publicly thank him for the scholarship I received from the University of Minnesota that I have attended and state further that I do not fall plow, I leave 5 tons of trash per acre.

As far as the tax situation, I just got a letter from Quaker Oats this morning. We give so much money per year and we rent out some of our land free of charge to charitable and needy institutions.

I believe some comment was made about disaster payments. Can I say that I had crop insurance 1 year. There were newspaper articles cited against me, and my custom operator was questioned at great length, And I was happy I had my seed—or rather my beans in the same elevator.

And then there was one comment made that either the operator or the owner should make a living. I think both should make a living, Senator.

And as far as the young farmer program in Iowa, I would like to go on that board but, Senator, if I understand the articles of incorporation I just received last week, they don't seem to want a farmer on that board.

Now I would like to apologize for not being here, but I just got out of the hospital and I have been 3 days in a teachers' meeting in Cedar Rapids, so this was written before I went down to Muscatine on Tuesday night for testimony before the Iowa Commerce Commission.

Now my testimony:

In 1964 when I had been before the hearing for my irrigation rights, the local SCS man took pen in hand with government stationery on government time and wrote to the commission that I should not have my rights.

Needless to say, this caused quite a stir with the commission. They thought that I had probably lied or at least some of my deeds were forged.

It necessitated a State member of the Commission making a trip to my part of the State and interviewing all of the petitioners that this SCS man had apparently instigated into signing a petition against me.

All he would have had to have done was to read the Code of the Great State of Iowa to see that cattle and animals have to have water before I can have one drop for agronomic purposes.

Also, he caused headlines to be had in the local paper that were not necessary to my well-being.

In 1964, I learned for the first time that I could get trees from the State nursery if I planted them for the benefit of all on my property that I owned and not for commercialization.

Later on that fall I was told that I did not own my own property. And, Senator, that's one way to tick me off.

By 1965 the bulk of my walnut timber was cut by an unscrupulous farm manager here in Waterloo, and the attorney defending him committed suicide 6 months after that trial.

Later the local man, and by that I mean the SCS man, wanted to know why I had a farm tree program and did not even know that I had the property in question in a timber reserve for approximately 6 years. He, too, was relieved of his command.

Now in 1976, I think approximately, while all of the soils were being codified we were told of a meeting of the new soil terms. My wife and I went to the back of the hall for 4 solid hours and were then informed we should not be there. We were told to appear the next day. The next day we were told by the area conservationist that the meeting was canceled and that that was all there was to it. To this day we do not know anything of the meeting, if it was ever held. And we understand that this man is also gone.

Now during the late sixties there was work done on my land without knowledge or consent.

And I wanted to go back to what somebody else testified to, that there should be conservation programs. Senator, I signed a release for those programs in about 1957. Yet work was done on my property in the 1960's without my consent or knowledge. So apparently these conservation folders are not being followed.

Now since 1972 I have had no luck in ordering trees at all. The order to the State Conservation Commission was either too early, too late, or they claim I didn't send a check in, which I did.

The one year that the conservationist agreed to plant, he lied about the hour. But when he finally got to the property in question he wanted it deeded right away to the Buchanan County Conservation Commission. Failing in this, he wanted it granted to the Boy Scouts. To this day I can find none of these trees that he planted. He is no longer with the commission.

And my summary is at this point, Senator, I would not vote for more money to the SCS until we get the chute cleaned out.

Senator **Jepsen**. I appreciate your comments. They will be noted and made a matter of record, and I thank you for taking time to appear. Thank you.

Our next person to testify is Cooper Evans, a candidate for Congress from Grundy Center, who has been in farming for a long time and is an engineer, inventor and many other things. Welcome.

STATEMENT OF COOPER EVANS, GRUNDY CENTER, IOWA

Mr. **Evans**. Thank you, Senator Jepsen.

Lady and gentlemen, it's a pleasure to have an opportunity to visit with you a little bit today.

As far as my personal background in this particular area is concerned, I am trained as a civil engineer. Farming has been my personal business for some 15 years, and during that time I served several years as an assistant with the county board of soil commissioners. I put in several thousand feet of parallel bench terraces on my land. I served several years in the Iowa General Assembly where I did participate in quite a bit of soil conservation legislation. In these roles I have arrived at certain opinions and prejudices on the subject of soil conservation, and I will try to relay some of those to you here in a few moments.

I think the first conclusion that I have is there certainly is a general awareness of the seriousness of the problem. There is no doubt about that. We all understand it.

The second point is that I would have to say in my judgment in the people I talk to, the soil conservationist and the county boards are judged to be doing an excellent job within the limits of their resources.

And the third point I would like to make, and I think it's been brought out many times already today, the dimensions of the task that lies before us if we are going to save this soil is far beyond the resources that are being made available, and I would hasten to assure you that I don't have any good solution to how we get enough resources in there to do the job in a timely manner. It is an extremely difficult and serious problem.

I do have some suggestions, however, that might be useful in moving in this direction. The first of these deal with administrative policies of the present program. And I guess there are three points here that I would like to make. And the first of these deals with the fact that there are both permanent and temporary practices that are funded with Federal money. And I think that perhaps more could be accomplished over the long term if more of this money was devoted to the permanent practices rather than the temporary practices. The State of Iowa in its legislation setting up funds for soil conservation restricts the use of those cost-sharing funds for permanent practices. I'm sure there are needs for temporary practices, but I would think the Federal Government might examine this area a little more closely to see if enough of those funds are going into the permanent practice area.

Point No. 2. This is perhaps more of a matter of perception than reality, especially in some counties, but of the complaints that I hear against the Soil Conservation Service and the program, the most frequent one is that too much of the money is used for too few very large projects. In some counties I suspect that is true and in others I suspect that it is not true at all, but I think that you should be aware of that particular complaint.

No. 3. There are two groups, of course, at the county level involved in soil conservation activities. And the first of these is the ASCS committee and the second is the board of county soil commissioners. I think you should look at the merits of giving more power in soil conservation matters to the county board of soil commissioners as opposed to the ASCS committee. The ASCS committee has a final word on many decisions relating to the use of soil conservation funds and soil conservation projects. And their orientation is not necessarily in the direction of soil conservation work. Their main orientation is in the area of production and price supports and things of this kind. I think it is an area that could bear some examination.

Moving to another subject, and this relates to land diversion and to set-aside programs such as we have had in past years and the possibility that we will have some time in the future for more such programs. If so, I think we could do much to improve the soil conservation benefits of such a program. Right now the county board of soil commissioners have nothing to say about which acres are diverted, and as a result I and most other producers I think universally have a great tendency to divert or set aside the land that produces the least crops. And this usually is not the land that is most subject to erosion. It is usually that wet 40 down by the creek that floods once in a while and you can't plant it until late, and so you put that in the set-aside diversion, and if you had it in strips up on the hill it would do far more to hold soil in place. And I think in any future programs, including diversions, that possibility ought to be considered.

On the subject of increasing both farmer participation and the amount of resources, I have four suggestions which I'm not terribly proud of in some instances, but I put them out because several of them have not been mentioned before. The first one has, and this is the area of tax incentives, and I think that's a national one for the Federal Government to look at, and I know that a number of bills have been introduced, and I would hope that some of them would be favorably considered. I think tax incentives either in terms of exemptions or credits on income tax, on capital gains tax, on inheritance tax or on any combination of these would be very effective in stirring farmer interest and participation in these programs.

In the area of raising money for this general subject of soil conservation, I don't know whether you know it or not, but in my home county the soil conservation board really begs money from the farmers to help them with the small office matters. They have a boosters club in which they go out and sell memberships to raise money for incidentals in that office. And it's really as tight a financial situation as you can imagine.

One area that I don't think anybody has suggested is the use of voluntary checkoffs on crop sales to finance some of this Soil Conservation Service work. I don't know where it would fit in best. But the voluntary checkoffs on sale of commodities at farm levels has been used very effectively by many farm producers or commodity groups, and such might have some application in some part of the soil conservation program.

Point No. 3 in this area of increasing participation. As has been mentioned, a major goal of all the soil conservation boards has been to get a conservation plan, a conservation folder on each tract of land in that county. And the progress toward this is steady but slow. I understand that there has been an experimental program in at least one area of this State, I believe, or maybe it's an adjacent State, to require such a plan on a tract of land before that tract could be included in any of the ASCS benefit programs. This begins to smack of compulsion; I understand that. But I think that the existence of a plan on a piece of land is the first step toward convincing that landowner and that operator that they should go to good tillage practices and go to a good soil conservation plan, and I think there would be some merit in considering the gradual requirement of the existence of such a plan as a qualification for participation in the various ASCS programs. And, lastly, a point that comes from my personal experience of many years ago. As you know, Senator, I spent a long time in the military services, and a good bit of that time was with heavy construction units of the Corps of Engineers, and I was always terribly impressed with the tremendous earth-moving capacity of those units. And I notice that in peacetime those units have very little in the way of a useful mission, and I look at all the soil that needs to be moved in the soil conservation movement, and it would seem to me that it might be worth exploring on a pilot project basis the feasibility of putting some of that heavy equipment that is available for many months of the year to work accomplishing something useful in the soil conservation area.

Thank you very much for the opportunity of presenting this to you this morning.

Senator JEPSEN. Thank you. As always, with anything you do, it's very well done.

I believe there is a goal for a plan for every farm in the State, did you tell me or someone from the Commission here tell me, by a certain year, 1988, somewhere down the road?

Mr. HAGEN. Yes. By 1985 a certain folder by every farm operator in the State if we have the technology or the technical help to be able to do that. But that will be just the basics, the soil loss limit for that acreage, and that's to be—it's what we call our Soil 2000. The bill has just passed the legislature. We are now in the problem of implementing it with very little help.

Senator JEPSEN. That's one step in the direction that we are recommending. It's a very good point here. Thank you very much.

We have two requests, and I would grant 5 minutes each, since we are not on schedule, if you so desire to testify. One is Mr. Frank Schaller of Iowa State University who would like to talk about Four Mile Creek. Is that correct? Is he still here?

STATEMENT OF DR. FRANK SCHALLER, IOWA STATE UNIVERSITY, AMES, IOWA

Mr. SCHALLER. Yes. Thank you, Senator Jepsen. I appreciate this opportunity to express some views on soil and water conservation and to discuss the Four Mile Creek research project. In the interest of time, I will confine my remarks to this project.[1]

I recently retired from Iowa State University where I have been employed for many years as a researcher and extension agronomist. My basic interest has been in soil management and soil and water conservation and grass and legume crops.

In 1979 in the spring I worked on the Four Mile Creek research project in Tama County. Before discussing the project, I would like to mention one other activity which I think will be of interest to you and of value in your deliberations in this area. Currently I'm privileged to be working on two task forces organized by the Council for Agricultural Science and Technology, CAST. I'm sure you have received and read other CAST reports in the past.

Factual statements are now being prepared by scientists from several States on two subjects, land preservation and soil erosion. And, as you know, these are concise reports and make every effort to analyze in an unbiased manner current trends, problems and needs. I think it is of special interest to note that both these reports examine past, current, and alternative policies which guide the development of land use and conservation programs at Federal, State, and local levels.

I now have a second draft of the land preservation report that should be ready soon. The other one is supposed to be ready by year's end.

Well, Harry Scurr did an excellent job in already presenting many of the facts on Four Mile Creek research project. I might just point out that it's well recognized that the development of agricultural technology has played a key role in maintaining and improving crop yields in spite of serious erosion. Agricultural scientists continue to point out that growth through technology appears to be leveling off. One reason for this leveling off is often credited to inadequate research funding.

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[1] See p. 215 for the prepared statement of Mr. Schaller.

And one example of funding failure may be the Four Mile Creek research project.

The purpose of this project was to evaluate best management practices and to help in achieving nonpoint pollution control and meeting the Nation's water quality goals. Of course, the major pollutants are sediments and nutrients and pesticides that are associated with the soil.

This project was designed to run for 5 years. The first 2 years were needed to get conservation practices on the land. And then at least 3 years for measurement. The first year was short because of delayed funding, and now after 2 years it appears that EPA funding will no longer be continued and the project may be terminated or seriously curtailed. And there are a great deal of installations and measurements going on.

For example, rainfall is measured at six locations; streamflow is being gaged at eight sites; sediment produced by water runoff is being sampled at several sites and analyzed for particle size and amount. Samples for plant nutrient analyses are being collected from rainfall, runoff waters, and sediment. Water samples for nutrient losses are also collected from field-size watersheds, tile outlets, and daily samples from Four Mile Creek. Samples for herbicide analysis in runoff water and sediment are being collected at several sites.

And then we have selected four subwatersheds, particularly for studying the effect of specific practices. A subwatershed had been selected for terrace, to be completely terraced. It's already done, but no gage on it. A filter strip watershed, which is a modified strip-cropping system. A modified tillage watershed and a no-till watershed. Practices on the terraced watershed is completed and filter strips are completed and the two tillage watersheds are well underway. On three of the stations, the gaging has been held up because of the funding problem.

Terminating the project at this stage would be a great loss. Although much useful data has already been collected, we are at the point where 2 years of preparation is about to pay off. Closing the project would be similar to planting a crop and not harvesting it.

I might just point out that the rate of application for farms in the watershed has been far above normal, and Harry Scurr pointed this out. Observations indicate several reasons for this. The 90-percent cost sharing for permanent practice such as terracing and waterway improvement and payments for conservation tillage have been a strong incentive. The educational program, including meetings, tours, and newsletters, have stimulated interest and helped convince farmers that benefits exceed their costs and that inconvenience is minimal. Pooling agreements to achieve maximum cost sharing caused farmers to work together. It increased practice application, because when one farmer wanted to do something, he usually had to convince three or four other neighbors to do it or he couldn't get the job done.

So, in summary, let me say that the Four Mile Creek project is well organized and staffed with highly competent people. It is well underway and promises to provide much needed information on the problem of protecting our soil and water resources. Not only will it provide information for Iowa, but coefficients will be developed for computer modeling applicable throughout the Midwest. It is hoped a way will be found to continue the valuable research that is just well started.

Senator Jepsen. Thank you.

Dr. Jorgensen has asked to testify. I understand you have a large number of conservation strips and some projects. You have 5 minutes.

STATEMENT OF DR. JERRY JORGENSEN, CEDAR FALLS, IOWA

Dr. Jorgensen. Thank you, Senator. Being an Iowa farm boy, I know we have encroached on the noon hour and I will try to get out of here in 1 minute, if that's all right with you, and I'm sure it will be.

I just want to say that to add a little credibility to what I am saying, we have been involved in soil conservation, and someone mentioned earlier, and much of the things that I was going to say have already been mentioned so I will slide right through that in a hurry, but I developed my interest in soil conservation with my father back in 1940 when I grew up on a farm in western Iowa that was hilly. And he put up some old style terraces back then, and so there is a feeling for the land.

And I think it was put into some of the farm boys, and I think it can be educated into others, and that's why I believe very strongly in an educational program on soil conservation.

Since I have grown older and become involved myself in ag business my brothers and I have acquired some land, and over the last 8 years we have installed terraces on virtually all of the hilly land that we operate.

I just want to emphasize that terracing does pay off. I think that needs to be said. I think we have experienced it. We now have land that was terraced 8 years ago. It is more productive than it has ever been. They are good practices. I think the idea can be sold.

I think along with that you have to, of course, use the other things, minimum tillage, livestock programs, rotation and all that, and I am not going to go back through that.

I really want to restate and reemphasize a couple of things on how we can get there. The cost-sharing programs, as has been brought out, are not adequate. I'm not sure maybe that's the total way to go. I wish you would investigate.

The tax credit things, other ideas I have heard today, sound good to me. Funding by lending, it's always been a puzzle to me that the ASCS office will loan you up to $100,000 to build a grain storage which actually propagates the row-crop thing, and I'm not against that, and they turn around and give you $2,500 a year to put in soil conservation practices.

It seems to me we could have a lending program on the same—maybe not through that same agency, but something along that line so that we can get help, because it's awfully hard to borrow money to put into the soil conservation installations.

Mike, who I have known for a long time, he did not program me, but he really got into my last point, and that is if you can do something in Washington to lead this farm economy to get back to a profit structure I think the farmers will make those land improvements. The last few years it has been virtually impossible to do that. We need profit in this industry and we need it desperately, not only for this, but for many other things.

Thank you.

Senator **Jepsen**. Thank you. Now before we close, and we are about to here, I would ask for any comments or questions from the audience. Does anyone have anything they would like to say?

Yes, sir. Would you please identify yourself and you can have the floor.

STATEMENT OF ROBERT RYAN, DeWITT, IOWA

Mr. **Ryan**. I'm Bob Ryan. I really don't need that mike. I was gifted. I came over from Clinton County this morning to sit in on this meeting, and I just wanted to make a few comments—it will only take a minute here.

Preservation in agriland, our No. 1 natural resource, isn't going to be saved by just soil conservation. It takes many things.

Our State lost more tons of topsoil to urban sprawl and industrial development than to soil erosion last year. One can call it land use or how we use our land.

If we don't do something, we are going to have a State that's going to be a well terraced urban sprawl. A lot of this happens because our State and Federal agencies are not coordinated. We have programs to terrace a hill for soil conservation and the Iowa Development Commission buys it to put a factory or something on it. This is just an extreme case, but this is one of them. But until we coordinate them, we are going to have these problems.

We need incentive and education programs instead of mandatory programs if we want to get an efficient soil conservation program working.

Thank you for your time. It was a good meeting, Roger.

Senator **Jepsen**. Thank you very much.

Does anyone else have any comments or questions?

I might just take a minute to summarize some points here today as I heard them. If farm income was higher, farmers could install practices themselves, it has been repeated over and over. Conservation practices are particularly hard for young farmers because of inflation and costs for young farmers getting started.

And in the voluntary/mandatory question, the voluntary won overwhelmingly, especially, it was emphasized, if farmers can afford things, and that comes into the income again.

Education and demonstration projects. A remark was made, "You can lead a horse to water, but you can't make him drink." And if the farmer understood something, he would be more likely to participate in it. You do that through education and demonstration.

Some discussion of less expensive practices should be emphasized as much as is possible. In other words, there are some things that are working that may have been overlooked or not been conidered, and we should explore all options.

I want to reiterate that all of these points and this testimony has been made a matter of record and will be used during the consideration of the farm bill next year.

The following written statement has been presented to the subcommittee and will be made a part of the permanent hearing. James Healy, representing Farmers Production Credit Association of Cedar Falls, Iowa, has submitted a statement.[1]

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[1] See p. 220 for the prepared statement of Mr. Healy.

I wish also to thank the Hawkeye Institute of Technology for providing these facilities for us today. They have a most beautiful campus and the area residents should be very proud. I would especially like to thank Dr. John Hawse, superintendent of the institute, and Travis Smiley, business and industry coordinator, for their efforts and their hospitality.

I would also like to acknowledge and recognize that several classes of ag students from Hawkeye Tech are in the audience. We are glad that you could join us, and I understand there are a number of you who are going on the conservation mile tour. At this time again I would reiterate that the bus will be available out in front of the building. We are going to recess until tomorrow when we will reconvene at 9 a.m. in Ames, Iowa. At 1:30 or thereabouts the bus will be leaving for the conservation mile tour. I recommend it to you. It will take approximately 45 minutes, so you will be back here at about 2:15, which is just 15 minutes over when the old program planned to end as it was submitted to those of you who had copies. That's not too bad considering all the ground we have covered.

I want to thank the press in attendance, and as part of an education program I trust and hope that some education will come from this for soil conservation. I thank our court reporter for his abilities.

This meeting is now recessed. Thank you all for participating.

[Whereupon at 12 noon the subcommittee recessed to reconvene at the Scheman Continuing Education Center, Iowa State University, at 9 a.m., August 14, 1980].

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SOIL CONSERVATION

THURSDAY, AUGUST 14, 1980

U.S. SENATE,
SUBCOMMITTEE ON ENVIRONMENT, SOIL
CONSERVATION, AND FORESTRY OF THE
COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY,
Ames, Iowa.

The subcommittee met, pursuant to notice, at 9 a.m., in the Scheman ontinuing Education Center, Hon. Roger W. Jepsen, presiding.

Present: Senator Jepsen.

TATEMENT OF HON. ROGER W. JEPSEN, A U.S. SENATOR FROM IOWA

Senator JEPSEN. The subcommittee hearing on soil conservation will lease come to order.

I would like to welcome you to the second day of 3 days of hearings eld by the Subcommittee on Environment, Soil Conservation, and Forestry to discuss soil conservation. We had a good hearing in Water-oo, Iowa, yesterday. Prior to calling the first witness, I would like to ake a few moments to outline briefly why these hearings are being onducted and the type of hearing records we hope to produce.

During the 1970's, our Nation began to focus more intently on the erious problem of conserving our soil and water resources. In the State of Iowa and other Midwestern States, this focus is especially ntense. This is due to the fact that the problems of soil conservation, n particular, represent a threat to the primary form of subsistence nderlying our heritage, our economic strength, our firmly held fam-ly values, and the future of the most productive segment of our ational economy, agriculture.

Concern about soil conservation can be found throughout our cit-zenry, and I can think of no better place to begin congressional re-view of soil conservation programs and practices than right here in the heartland of America and the seat of agriculture technology, and the competent knowledge that we have here at Iowa State University. Next year, Congress will undertake a lengthy evaluation of basic agricultural programs, in preparation for consideration of a general farm bill. I do not feel that such an effort will be complete unless we review our soil conservation programs and the assistance they seek to provide. I personally guarantee that soil conservation programs will receive top priority in the Senate Agriculture Committee deliberations in 1981.

Therefore, I have requested initially 3 days of soil conservation hearings in Iowa, and trust that they will serve as a suitable prelude and foundation upon which to build a thorough examination of the Government's soil conservation efforts. I want this dialog to continue in Congress and elsewhere but I feel it must begin here where this subject is so important. In order for Congress to tread the right path, it must first receive proper direction. It is essential that we in the Senate and our counterparts in the House of Representatives learn more about what farmers and soil conservationists are doing at the local level. Simply put, we need to find out what works and what doesn't, what is working and what hasn't worked. It is the process that we should follow to keep informed, and we shall continue this grassroots procedure as we develop the U.S. Government role in conservation activity.

We are here to listen and learn. Your testimony and your suggestions and comments will prove invaluable to a proper understanding of your conservation needs to better protect our soil resource. Rather than force feed you a diet of Government proposals that you don't want, or can't afford, I prefer to ask you to speak out and share with this subcommittee what your ideas are and how your objectives can be realized. To help achieve this end, we have assembled a representative group of witnesses for the three hearings, and we look forward to their presentations.

Armed with a comprehensive hearing record illustrating what has been successful on the local level, and indicating what more needs to be accomplished, this subcommittee then can better tackle the 32 existing conservation programs within USDA in order to provide necessary improvements. We also need to know where and when not to tinker with effective practices. Iowa can provide, and in many ways has already provided, the example for others to follow.

Please be assured that your messages and your statements will be recorded and taken back to Washington and published for the committee and for public use. Hopefully, the results will be tangible. I much prefer shipping your words and proposals out of State, than I do our fertile Iowa topsoil that seems to be exported right along with our corn. We need the cumulative testimony from you to make our case for soil conservation convincing and compelling enough to get the support of the Congress for needed legislation. The only thing more effective than your testimony would be a dramatic, real-life situation similar to the one that occurred at the birth of the Soil Conservation Service. Secretary Lounsberry will probably recall this.

It was on April 2, 1935; the afternoon sky suddenly darkened over Washington, D.C., as a swirling cloud of dust blew in from 2,000 miles inland. It just so happened that that very day, Hugh Bennett was testifying before the Senate with regard to soil conservation programs when the storm appeared. The disaster of the Plains was a tragic vindication of his repeated warnings about soil erosion.

This event brings so vividly to mind our earlier failings with respect to soil conservation. Hugh Bennett, who was then head of USDA's Bureau of Soils, had to wait for this devastating act of nature in order to convince the politicians and bureaucrats that a permanent soil conservation program was needed. The eastern city dwellers could only stand the grit in their teeth for 25 days, because that's how long it took them to establish the Soil Conservation Servce. When Congress directed the Secretary of Agriculture to create the SCS, it was done the very same day.

Now, I doubt that we are going to effect change that quickly nowadays. The problem, however, has not lessened at all, and cannot be ignored. We must come to grips with the future now in order to have one. These hearings are, in my opinion, a very good start.

Due to the fact that we have a full schedule of witnesses today, and it's very full, I would like to ask that all oral statements be limited to a maximum of 10 minutes. I hope that we can have all of our testimony given individually within the bounds of 10 minutes.

If you have testimony that only takes 5 minutes, please don't feel that you have to take all of the 10. We have a give and take in questions, and yesterday questioning was very informative and very helpful. So we do want ample time for questioning also.

At the beginning of each witness' presentation, one of my staff will set a timer for 10 minutes. It helps all of us keep on track. When the bell rings, 10 minutes will pass.

Now, during the course of the hearing today, if anyone wishes to ask a question of me or any other panelist, we would appreciate your standing up and clearly stating your name and whole address for the record. As we did yesterday, I would ask respectfully that we hold any questions from the audience until after we have completed all the witnesses' testimony.

At this time I would like to introduce on my immediate left Susan Snyder-Smith, who is a member of my staff in Washington, a legislative assistant, and her hometown is West Unity, Ohio. She grew up on a farm in northwestern Ohio. On behalf of my office, Susan will be developing soil conservation research and information for my use in the Senate Agriculture Committee next year.

To my immediate right is Mac McCarthy who is a professional staff member of the U.S. Senate Agriculture Committee. His hometown is Baton Rouge, La.

With that introduction and general explanation of why we are here and what we hope to accomplish today, I now have the honor of introducing a longtime friend of mine. I bet you thought I was going to introduce you, Bob. You have been a longtime friend of mine, too, but I have a longtime friend on my left over here, my wife, Dee. I would like to introduce her also.

Now I introduce Bob Lounsberry, who is a longtime friend also, and Secretary of Agriculture in Iowa. Proud to have you aboard. Look forward to hearing you.

Mr. LOUNSBERRY. Thank you, Senator Jepsen. I am certainly glad that you put the priorities where they should be in recognizing your wife.

Senator JEPSEN. Well, Mickey would approve of that, too.

STATEMENT OF ROBERT LOUNSBERRY, SECRETARY, IOWA DEPARTMENT OF AGRICULTURE

Mr. LOUNSBERRY. I think so, I guess that's fine.

Senator Jepsen, ladies and gentlemen I am extremely pleased to be here today to discuss this vital topic of soil conservation. It is appropriate that these hearings be held in Iowa, the heartland of the Nation and the breadbasket of the world—a State whose economy and sociology are based on agriculture. In saying this we are really saying that our wealth and our "way of life" are tied to the soil.

The ability to produce food is one of the most crucial of all functions in which man is engaged. This ability to produce food is tied directly to both the quality and quantity of productive soil. I believe we do have critical problems with both, which we must face and if we are to maintain the wonderful way of life which we enjoy in Iowa and the United States.

Daniel Webster in 1840 said, "Let us never forget that the cultivation of earth is the most important labor of man." William Jennings Bryan in 1896 told of the dependence of the cities upon the agricultural land and I quote, "The great cities rest upon our broad and fertile prairies. Burn down your cities and leave our farms, and your cities will spring up again as if by magic; but destroy our farms and the grass will grow in the streets of every city in the country."

The World Bank recently estimated that more than 1 billion people—one-quarter of the human race—suffer from chronic malnutrition. Recently President Carter received the final report of the Presidential Commission on World Hunger. The conclusion reached by that group was that the elimination of hunger should be the primary focus of the U.S. relationship with developing countries. If any country is capable of leading the fight against hunger, it has to be the United States. We are, by far, the most powerful member of the world's food system. We harvest more than half the grain that crosses international borders.

Iowa's role in this process is also very large. It is estimated that over 26 percent of Iowa's agricultural production goes for overseas export, meaning that the average Iowa farmer receives $1 out of every $4 in income from the sale of his products overseas. For farmers, then, export trade has meant the difference between growth and stagnation. While farm exports are so essential to the U.S. balance-of-payments position, a major worldwide effort to conquer hunger and poverty may also hold the key to both global and national security. Iowa farmers are glad to do their part, but we all must be aware that the cost to our soil may be very high.

There are also limits to how much food the United States itself can produce. Even as both the economic and humanitarian needs to export become more urgent, overall yields per acre seem to have stopped increasing in the same manner as they did for several years. Uncertain weather patterns, competition for water, air pollution, increasing costs and scarcities of fertilizers, fuels and other supplies, environmental constraints on farming practice—all of these have taken their toll. What is becoming clear is that if high levels of productivity are needed, and if yields per acre are not increasing, then it is important to look at the land itself.

The Soil Conservation Service has suggested that the United States could actually be running out of its productive farm land "reserves," or the "quantity" of good soil.

It has been estimated that every day 12 square miles of America's farmlands vanish forever. Where crops, barns and silos once stood.

roads, subdivisions and shopping centers have sprouted. In the past decade we have lost farmlands equivalent to the combined areas of Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New Jersey, and Delaware. Thus today of the 24 million acres in the "ready reserve" none will be left by the year 1990—just 10 short years from now—if this rate of farmland loss continues.

In Iowa, the trend is simliar to the national trend. In Warren County the loss of agricultural land is estimated at 29 acres per week, or, during the past 16 years, a loss of 6,500 agricultural acres.

In Linn County during the 9-year period from 1958 through 1967 about 1,000 acres per year were lost from crop production. During the same 9-year period in Scott County, about 1,450 acres per year were lost from crop production. From 1945 to 1969—a period of approximately 25 years—2.5 percent of all of the total farmland in Iowa, or the equivalent of 2½ full counties, was taken out of agricultural production. If we are to maintain our agricultural base and our ability to produce to feed a hungry world, this loss of prime farmland cannot continue.

But, not only is the soil being lost through development, the equally critical twin is erosion, which reduces the "quality" of the soil. A failure to reduce erosion to acceptable levels could lead sooner or later to major decline in crop yields. Iowa has the dubious honor of having the highest average soil loss per acre of any State in the Nation. This is in spite of the fact that Iowa has the most progressive State soil conservation program of any State in the Nation. We have taken some significant steps that you will hear about from others on this program. Suffice it is to say that more needs to be done.

Part of the reason is that it is difficult to sell the idea that a massive effort is needed to protect the Nation's soil resources when there is plenty of food on the dinner table, and we read about bumper crops of corn and soybeans. So there appears not to be a crisis.

What many people do not realize is that the bumper crops are coming at the expense of the soil. I am increasingly concerned that the President and the Congress do not fully appreciate that Iowa is really "paying" for our reliance on foreign oil, as Iowa farmers help with the balance-of-payments problem through our tremendous exports. Iowa agriculture is proud to serve America, but is the price too high?

Some say we are "mining" our soil rather than stewarding it. They say we are exporting 2 bushels of topsoil for every bushel of corn we export, for we are losing topsoil at the rate of 1 inch every 12 years. Even where the loss of topsoil has begun to reduce the land's natural fertility and productivity, the effect is often masked by the positive response to heavy applications of fertilizers and pesticides, which keep crop yields relatively high.

And as erosion eats away the productivity of the land—affecting the most marginal lands the fastest—it produces more reliance on the prime farmlands of the nation. However, as good lands become urbanized and unavailable for food production, it in turn forces agriculture to look to the more marginal lands, signaling a new round of soil erosion and new pressures on the land and water.

Unfortunately, the farmer is caught in the middle. He has had to put short term profits ahead of conservation too frequently, because of the effects of inflation and sharply rising costs on his production inputs. Many farmers struggle under a growing indebtedness, and their need for increased returns is often very real. Even with this money crunch farmers have shown great interest in putting up their own funds to match public dollars for permanent soil conservation structures. This is a good partnership and must be continued and increased. Farmers have also taken great strides in adopting new conservation tillage practices and implements which are less costly, but effective in many cases.

The National Association of Conservation Districts has adopted a "Resource Agenda for the 80's." I will close my remarks, using the first 2 items as an appropriate direction for our policies and actions in the coming years.

First, there must be a higher national priority for the conservation of the Nation's productive soil and water resources. Conservation is essential to maintain the resource base to meet our long term food and fiber needs, fight inflation, meet environmental goals, maintain a favorable balance of trade, protect our national security, and maintain our standard of living. The roots of our national strength, security and well-being cling deeply to the fabric of our natural resources.

Second, natural resource conservation programs must be designed and implemented to take advantage of the willingness of private resource users to voluntarily carry out needed conservation measures. New and better systems of economic incentives for conservation are needed to amplify the private resource users' capability to manage their resources in the long term interest of all people. Such new systems should include a broad array of voluntary incentives initiated at every level of government so that the public's interest can be harnessed to the private economic need to conduct profitable resource-based enterprises.

Senator, if we are losing our soil resource through erosion at a rate higher than it can be rebuilt; or through helter-skelter development; and I refer to leapfrogging; then the price is too high. We are slowly, but surely, strangling ourselves. Our soil must come first. All else builds on it. Thank you.

Senator JEPSEN. Very, very well done. Very interesting. Your theme, Is the Price Too High, is a very challenging question. We had some interesting points brought out yesterday with regard to how some Government programs force the economics, force the farmer to farm from fence row to fence row which doesn't always make for the greatest of conservation practices.

So there are a lot of things, as you indicated in here, that must be taken into consideration when we look at the total program.

I asked the question of everyone yesterday and I don't think I need to—from the basis of your last statement—ask you but I will anyway. Do you feel that soil conservation programs should be on a voluntary basis or on a mandated basis?

Mr. LOUNSBERRY. Well, I think as much as possible the incentive should be on a voluntary basis. And I only cite an attempt to make it mandatory through the legislative process.

In the past years we have seen some of this effort made in the State of Iowa, and when it boiled down to the bottom line, it got to the point where the mandated part of it would require 75 percent funding from sources other than the individual. Of course, it's very difficult to get 75 percent funding.

I think that in—there has been some mandatory practices set out in our soil conservacy district laws that were passed in the State. But as I pointed out in order for that to be mandatory, it requires quite a lengthy and laborious process. And it does require 75 percent funding from sources other than the persons themselves or the owner of the land.

I do know that incentive, even if it's less than 50 percent, many times I feel is enough to stimulate some private investment and carry out some much needed practicing.

Senator JEPSEN. Secretary of Agriculture, could you list one top priority the Federal Government might be doing by way of its working relationship with the State government in the soil conservation area that they are not doing which you feel should be done?

Mr. LOUNSBERRY. Well, I feel, Senator, that the fact that so many times the program, the conservation programs by the Federal Government were so in limbo for such a long time that there was no real clarification of what the programs were. And I think this is the biggest need. The first priority should be to establish a sound conservation program and come forth with it and stick with the rules and not change the rules in the middle of the game which sometimes has happened.

I know for several years in a row this is what really prompted the State of Iowa Legislature to come forth with a strong conservation program with State money, was the fact that the Federal Government had indicated that there would be no conservation practices and no money for conservation practices such as permanent soil conservation practices we know of, the terracing and upland stuctures and so forth.

And so to me the simple answer is establish a program, make the rules of the game as it's established and do it soon enough so that an individual can rely on it, because the credibility hasn't been there from the U.S. Government's standpoint in the past. And I do feel that if there is going to be an incentive that could be tied in with a—if there is a set aside program for those who participate in a program or if that sort of a program is innovated, then I feel that incentive should be enough so that that particular piece of land where the conservation practices to be implemented can be taken out of crop production for at least an entire year so that it is completed and not an attempt to half do the job and try and raise the crop and consequently it goes down the drain because by setting aside for a whole year, then that will help those who are going to do the work get lined up to do it, too.

And so many times that is a problem of timeliness, of getting it done weather interferes with it.

Senator JEPSEN. We had some examples of what you just said yesterday which were given with regard to terracing. They set up the terraces, I think they call them hump terraces now, and they put them in in the spring and couldn't wait to get them going and to plant. But they got a good rain and the terraces all washed out.

Whereas if the terraces lay for one year, they can take hold. So you take the land out for a year and you put the terraces in in the fall and

they can settle and get firmed up before you ever start to crop th
It's a technique and it's a mechanical one that was brought
yesterday.

Mr. LOUNSBERRY. Very good point. And the fact that if you are g
to try to put them all in the fall, then it's a problem of getting the
essary person or contractor to do the work because you can't do it a
that short a period of time depending, of course, on the weather. S
falls you have a lot of good weather. Other falls it's difficult to g
done in a short period of time.

Senator JEPSEN. Susan?

Ms. SNYDER-SMITH. No.

Senator JEPSEN. Mac?

Mr. McCARTHY. No questions.

Senator JEPSEN. Thank you very much, Mr. Secretary.

Mr. LOUNSBERRY. Thank you.

Senator JEPSEN. Dean Kleckner, president of the Iowa F
Bureau. Welcome, Dean. Look forward to hearing from you.

STATEMENT OF DEAN KLECKNER, PRESIDENT, IOWA FAR
BUREAU FEDERATION

Mr. KLECKNER. Thank you, Senator. I left five copies for yo
have about an extra 10 copies for the press or the public or any
that might want them. We are happy to be here to testify for the I
Farm Bureau Federation.

I am Dean Kleckner, president of the Farm Bureau. I am a far
from Rudd, Iowa, north central Iowa.

My statement: Erosion is depleting our productive soil resou
to the extent that soil conservation should be given a high prio
by landowners and State and Federal governments. Torrential rai
Iowa this spring gullied fields which were not adequately protec
and in some areas, washed out erosion control structures. He refe
to that.

A recent survey conducted by the Soil Conservation Service u
the Resource Conservation Act of 1977 indicates that reducing soil
to allowable limits in Iowa would require a greatly expanded con
vation program over a period of several years. If an accelerated
conservation program is to be given a high priority, a greater aw
ness of the need must be promoted. Increased coordination among F
eral, State and local conservation officials is necessary to inform n
participating landowners of the need and value of conservat
Information and education programs to heighten public awarenes
the need for conservation should be intensified.

We believe that long-range conservation results will generally
better with a voluntary approach supplemented with incentives ra
than mandatory directives. Farmers in Iowa have voluntarily mat
all State and Federal cost-sharing funds available each year for sev
years. In most districts, implementation of some conservation pla
held up each year because of a lack of government cost-sharing fu
We strongly urge that cost sharing be increased substantially to m
the growing needs already expressed by farmers.

The present proven structure in which locally elected soil dis
commissioners approve and authorize the program, with techn

services provided by the Soil Conservation Service, should be continued. This system provides the best opportunity for technically trained personnel to work directly with landowners and operators in developing conservation plans and management practices.

We believe farmers should have a soil conservation plan for their farms. Every plan should be developed with alternatives which allow farmers to select soil management practices that are consistent with their farming operations.

The small watershed program has been an effective area erosion control method. The requirement of conservation practices on at least 75 percent of all land in the watershed forces sponsors of watershed projects to promote better understanding of all aspects of the program. Additional Federal funds should be made available to step up the tempo of the construction phase of the small watershed program. We recommend the approval and processing of small watershed plans at the Federal level as expeditiously as possible.

Urban erosion is a very real problem. It affects both private landowners and public facilities below development sites. Erosion control requirements should be included in subdivision ordinances. Soil district conservationists should provide technical assistance in developing erosion control ordinances. Highway construction and repair plans should include provisions for temporary soil protection measures.

Soil conservation must be a continuing process if the productive capability of our soil is to be maintained. Research should be conducted with emphasis on developing best management practices for the various soil types, topographic features and weather conditions throughout the country. Minimum tillage and no-till practices should be promoted in areas where they can be effectively used.

Consideration should be given to the use of various incentives to encourage farmer participation in soil conservation. Among these are an income tax credit on Federal and State taxes equal to a percentage of the cost of installing permanent soil erosion control practices; low-cost loans to help finance farmer cost-sharing efforts; and payments for the loss of crop income from land set aside for construction of conservation practices during the growing season.

Iowa was the first State to appropriate funds for soil conservation cost-sharing payments. The current $6 million annual appropriation far exceeds funds appropriated in the few other States which have followed our lead. Farmers have matched all State and Federal cost-sharing funds in recent years, and 22 counties contributed funds for soil conservation practices this year. That may not be quite enough. It may be a couple more than that. Soil loss from wind and water erosion continues to be higher than we can permit if we are to maintain our current productive capacity. Concerted efforts by private citizens and all levels of government are necessary to establish a high priority for soil conservation.

That concludes my statement, Senator. Be happy to answer any questions.

Senator JEPSEN. Very good statement, Dean. I don't need to ask you whether you are in favor of voluntary or mandatory. I will dispense with that and get right to a problem that was discussed and

touched on often yesterday. That is the problem the young farmer h
when it comes to soil conservation by way of financing, his especial
unique problem; a tax incentive really doesn't fill the bill. He is havi
a tough time making ends meet and he doesn't have any real inco
to pay tax on. Partial payment doesn't really help either.

What is the solution to this problem? I know the Farm Bureau
concerned about it as we are and as many folks are in this State a
Nation—how the young farmer gets started. And here we are assumi
the young farmer has gotten started and we are talking about t
extra payment for soil conservation, which, as we all know, should
considered a long-term proposition and doesn't return necessarily
the first year, the second year or even the first 10 years.

Do you have any thoughts on how the young farmer——

Mr. Kleckner. I wish I had an easy answer. It's hard for any you
person to start in a business, whether it's farming or other busine
It just isn't young farmers who are having difficult times, obviously.

First of all, I think we ought to keep in mind that farmers are doi
a better job than we have ever done before. I think there is more cri
icism of soil conservation, lack of soil conservation than we have ev
had. The media is concerned. The public is concerned. Farmers a
concerned.

But we are still doing better than we did some years ago. We a
moving to minimum till and to no-till. Machines are coming out th
lend themselves to that effort, and young farmers, I think, are mo
willing to make those moves that they can do at a relatively low co
than their fathers were, than I would for example.

They have been taught the need. They see the need, and as the
purchase machinery, they are purchasing those tools to begin with s
they are moving that way.

But when you get into the area of building terraces where you a
talking about thousands of dollars—first of all, even their father
have problems spending thousands in a relatively low-income year o
in any year. But they have more of a problem because they don't hav
a thing to fall back on. The low-cost loans would help. These coul
be available and go to anybody.

I would suggest that especially in these days of overproduction
and we still have the capacity in this country to overproduce in th
agricultural area year in and year out. This year perhaps with
drought we don't have it, but I am wondering if it wouldn't be logica
to allow farmers to set aside or divert with some payments, land tha
is in those terraces, that is in waterways, at least for some years.

You mentioned building terraces and having them wash out th
first year. What would be the matter with a 5-year program o
payments for that land that is actually in the terrace and in th
waterway or have a sunset provision in there where after they ar
established, the payment would be decreased and perhaps phased out?

I guess that wouldn't be of any more help to a young farmer tha
his father, but at least it would be soil conserving. I believe it would
be something the public would accept. It wouldn't be like paying
people not to plan, not to do anything. Wildlife would be helped and
we all like to hunt.

I think there are so many things that can be said for doing something like that. But back to the young farmers. First of all, they are more willing to do it on their own. Their bias is for doing it. So you have an advantage already in dealing with the young farmers.

Senator **Jepsen**. Thank you. Susan?

Ms. **Snyder-Smith**. No questions, thank you.

Senator **Jepsen**. Mac?

Mr. **McCarthy**. One question. Mr. Kleckner, in your statement you mentioned the increased need for education of the public, especially the nonparticipating public, as to what can be made available to them in the form of soil conservation assistance.

Do you have suggestions of any kind as to in addition to whatever is in place now, where efforts should be stepped-up or initiated? Should it solely be within part of the Department of Agriculture, which has a local delivery system like SCS or Farmers Home offices, or should we also look at organizations like the Farm Bureau which normally has county organizations in most States?

Mr. **Kleckner**. Yes. I think that you have got to use every system that there is available. The ones that you mentioned—Extension you didn't mention, but obviously they are there and they are included and they do an excellent job. Farm Bureau, Farmers Union, all the farm organizations and the commodity groups should help in the effort. I don't think we can do—we can't do too much in this area of education. But, again, as I pointed out before, we are doing better than we used to do but we can't rest. We have to keep on what we are doing and do even better.

But the mandatory approach is not the approach. It's the matter of us wanting to do it with incentives provided to make it affordable and then just utilizing every bit of information that any group can get out.

I know the Farm Bureau—I have brought with me a copy of our Farm Bureau Spokesman, June 14 this year, an article, "Farmer Interest in Conservation Is High Despite Economic Conditions."

We list some things that we are doing in Iowa and some of the figures I used in my talk were used in this statement. We went even further talking about Iowa till, the wind break program, conservation funds for payment of $30 an acre.

We periodically talk about that in our paper. Now, you can't make people read but it's there if they want to read it. And I guess there are some farmers that don't know that these practices are available, but there are enough that know they are available to take all the money that is there.

Mr. **McCarthy**. Thank you very much, Mr. Kleckner.

Senator **Jepsen**. Thank you very much.

Mr. **Kleckner**. You're welcome.

Senator **Jepsen**. We now introduce Vivian Jennings, associate dean of the Cooperative Extension Service at Iowa State University. The previous witness mentioned the Extension Service and so it is very appropriate that we now have the associate dean of the Cooperative Extension Service. Welcome and you may proceed.

STATEMENT OF VIVIAN M. JENNINGS, ASSOCIATE DEAN, COOPERATIVE EXTENSION SERVICE, IOWA STATE UNIVERSITY

Dr. JENNINGS. Thank you. Thank you, Senator Jepsen.

As a representative of the Iowa Cooperative Extension Service, I appreciate the opportunity to express our views and concerns to the subcommittee about soil conservation in Iowa.

Certainly, the need for improvement in programs to effectively reduce and limit soil erosion by wind and water is recognized by many rural and urban Iowans. Iowa's farmers have been concerned about the problem for many years. Many urban Iowans are concerned, too, since our soil is the base for our present and future food supply. Others are concerned about soil erosion for various environmental quality reasons. And we support their concerns as well.

I believe in recent years, and particularly this spring, the concern has increased due to intensive rains falling on unprotected soil i many areas of the State. The power of the raindrop to dislodge soil particles on unprotected soil and to place it in solution is tremendous Without residue cover from conservation tillage on the soil surfac to absorb the impact of the raindrop and small minidams from large pieces of residue to slow the runoff of the soil containing solution the erosion potential is truly devastating. This is particularly tru if there is also not in place conventional soil conserving practices and structures. I believe, since its inception the Soil Conservation Servic has been dedicated to providing the necessary technical assistance t allow farmers to protect their soil using these traditional, prove practices. More recently the Soil Conservation Service as has been brought out before, has been encouraging the adoption of conservation tillage as a complementary practice to reduce soil erosion in Iowa The Soil Conservation Service and the Extension Service have developed excellent interagency cooperation in soil conservation programs to provide technical assistance, information and educationa programs to minimize soil erosion in Iowa.

The Extension Service continues to have a strong commitment t provide information and educational programs on soil and water conservation. From an early time the Extension Service has provided fiel days, demonstrations, meetings and short courses along with variou publications and visual aids to improve the knowledge level of al Iowans about the need for soil and water conservation. Extensio Service has provided alternative strategies to accomplish needed goal and objectives to reduce soil erosion. The impact of these many educational programs needs to be measured over a long term period of tim

The educational program of the Extension Service has had a stron impact on the development of a stable, high quality food base. This ha occurred during a period of high resource demand from our soil.

The demand for natural resource accountability is a concern o citizens everywhere. Both urban and rural persons alike are concerne about our future soil resource base. Although both are concerned, onl the farmer needs to, in the short term, base his livelihood on soil resources. He is, therefore, strongly driven to make economic decision that are in his best interest to supply an income for his family. Th demand is high from the farmer for information, education, and technical assistance to implement known production and soil conservatio technology. I believe the trend is increasing for more precise information from agricultural research in this area.

Due to conflicts between the farmer's concern about soil erosion and his economic needs, he is and we believe will continue to be receptive to educational programs and information along with technical assistance that will solve his problem of minimizing soil erosion and yet maintaining an acceptable standard of living for his family.

We in Extension Service feel strongly that we need to continue to provide landowners and operators with the latest research available through education and information programs that will provide an incentive to those on the land to remain good stewards of the soil. Extension Service needs the financial resources to carry out these educational programs and educational responsibility.

All citizens have a responsibility to provide the resources for educational, information and technical assistance programs to assure a productive soil base for the future. Thank you.

Senator **Jepsen**. Thank you, Dr. Jennings. Education, information, demonstrations, where does the Extension Service get their financial resources to provide these programs for soil conservation?

Dr. **Jennings**. Of course, we feel strongly about educational programs as being based not only from local but State and Federal funds. And many of our programs such as soil conservation, usually the basis for these types of programs, evolve at the grassroots level and the county.

So we have strong support particularly for our field staff at the county and area level, from county as well as State funding but basically our funding is from county, State, and Federal.

Senator **Jepsen**. How do you feel about the question as to whether soil conservation practices should be voluntary or they should be made mandatory, if you would respond to that.

Dr. **Jennings**. My opinion in this area is one that I feel that our programs in the past have certainly supported that of a voluntary type nature. It's the question of the carrot-or-the-stick approach and certainly the carrot approach, that of voluntary type of approach, where we are allowed to obtain information that we can utilize and put into effect is certainly much more palatable to those receiving it.

I think we would have problems in trying to implement some type of a mandatory type of program or mandatory types of programs in this area. Certainly, farmers as producers have responded in the past probably more than any other segment to voluntary type programs, to incentive programs, to the carrot approach, to accepting and utilizing information and technology that is available that would allow them to maintain a standard of living and yet conform to the various types of necessary things such as in the conservation area of conserving our soil.

Senator **Jepsen**. There was a statement made yesterday. You can lead a horse to water but you can't make him drink. Along those lines the farmers who accept, practice, and pay for soil conservation are more likely to do so when they actually could see and identify with a particular conservation as it applies specifically to their land and to their farm.

I would expect the Extension Service to play a major role in helping with demonstrations and information along those lines.

Dr. Jennings. And this is the basis for our programs through the program planning and development process. We see if there is a need for applied research and demonstration type projects where we might be able to establish some type of a best management practices, soil conservation practices and show to the grower himself a side-by-side situation where it's a similar type of soil, similar type of farming conditions that he has. And if you implement these type of practices, that it will conserve your soil. It will be beneficial from that standpoint.

There will be long term effects. Yet at the same time you can maintain the standard of living and in many cases improve it. I think maybe we haven't emphasized that enough. But we can demonstrate these type of things and benefit the farmer in many ways and benefit everyone as a whole.

Senator Jepsen. Susan?

Ms. Snyder-Smith. How much of your time or budget is devoted to soil conservation?

Dr. Jennings. I will start off by saying that in the area of agriculture and natural resources with the Cooperative Extension Service budget, approximately 40 percent of our time is in this area. So our programs account for about 40 percent of the time.

As you break this down, it's very difficult to give an actual percentage because there is much overlapping. But I would estimate that out of this we would—it would be in the 10- to 15-percent range.

Ms. Snyder-Smith. Do you decide that or is that decided by the State, or local governments from which the money comes?

Dr. Jennings. We feel very strongly about our programs that many of these originate at the county level. So, in other words, it's the growers, it's the farmers themselves—it's the persons at the county level that are part of our various councils that decide that there is a real concern about soil conservation. We ought to do something about it.

They in turn—from that standpoint—they in turn develop programs. They go through their county extension directors and through their area crop production specialist, for instance. We in turn discuss this and try then to develop a unified program across the State to satisfy the needs of those people at the local level. So we feel very strongly that this is a very important part of the Extension Service and that we need to do this to satisfy the needs and we need to be funded from that standpoint so we can carry this out.

Ms. Snyder-Smith. Thank you.

Senator Jepsen. Mac?

Mr. McCarthy. No questions.

Senator Jepsen. Thank you very much, Doctor. Very interesting and very informative.

The associate dean of agriculture at Iowa State University. Welcome, Dr. Mahlstede. You may proceed.

STATEMENT OF JOHN P. MAHLSTEDE, ASSOCIATE DIRECTOR, IOWA AGRICULTURE AND HOME ECONOMICS EXPERIMENT STATION, IOWA STATE UNIVERSITY

Dr. Mahlstede. Senator Jepsen, we appreciate the opportunity to participate in this important hearing, on a subject that has been and is and will continue to be one of the primary areas of research in the

Iowa Agriculture and Home Economics Experiment Station. We know also from your perceptive statement before the Agriculture Appropriations Subcommittee this year, supporting the need for a soil till center in Iowa, that you have a sincere and personal commitment to maintaining the quality of one of this State's and in fact, this Nation's most important natural resources; our soil.

As background to document this urgent need, Dr. John Pesek, who is the head of our department of agronomy, and Dr. Minoru Amemiya, extension agronomist, and I have prepared a written statement entitled, "Soil Conservation Is Forever."

I would propose not to read this statement but submit it to the subcommittee for their consideration. I would also call your attention to the fact that one of the authors of this statement, Dr. Amemiya, is seated in the guest section and will be available to answer any questions that you might bring up.

I would propose, rather, to talk about some issues that are related to the general statement in the written testimony that we presented to your committee.[1] In general, the statement reviews in some detail where we have been and how we got to where we are in soil conservation.

Just to encapsulate for a moment, as a nation we became painfully aware of the need for soil conservation in the 1930's, the days of the Dust Bowl. Everyone could see it.

On the other hand, the general public was not aware of what was happening on the land, the serious loss of soil caused by water erosion was already depleting our ability to produce food over time. As a result of the Dust Bowl, public concern and action was prompt, resulting in the formation of the present Soil Conservation Service in the U.S. Department of Agriculture.

The Dust Bowl days were soon forgotten however, as issues of the day were focused on World War II, the condition of our atmosphere, and the decay of our inner cities. The technological developments and breakthroughs which evolved after World War II including the low-cost production of nitrogen from natural gas, the design and construction of farm power and larger tillage equipment, improved varieties of croplands made it possible for us to hold our own and, in fact, improve crop yields in spite of staggering losses of soil.

Unfortunately, even farmers who recognize the basic role that soil plays in food production systems were forced by the pressure of the marketplace and a genuine desire to feed a hungry world to ignore practices and even remove structures which could and did keep soil in place.

In 1970, Congress and the public again turned their attention to soil conservation, based on the recognition that soil sediments were by weight and volume the largest pollutants in our lakes, streams, rivers, and estuaries. In a manner of speaking, we have reached our present state of awareness through the back door via section 208 of Public Law 92-500.

As we look through the record, Iowa has been a leader in soil conservation; in organizing the system of local soil conservation districts based on legislation passed by the Iowa Legislature in 1939. It has been our privilege to work with these community leaders, the Soil Conservation Service and the Iowa Department of Soil Conservation to bring to Iowa farmers the latest technology and management knowhow for keeping our soil in place. Those who have served and who are serving on the local district boards and on the State committee are testament to the fact that those on the land care and are willing to give of their time and talents to maintain this natural heritage that has made Iowa the No. 1 agricultural State in the Nation.

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[1] See p. 222 for the prepared statement of Dr. Mahlstede.

In 1979, as a positive response to the challenge of section 208, Iowa prepared a statewide water quality plan. It is not surprising that the control of nonpoint pollution from agricultural crop and pasture land was in fact listed as one of 16 priority programs needed in Iowa.

Ten of the major points under this priority program deal directly or indirectly with the reduction of the sediment load of runoff water from agricultural lands. Eight of these procedures for controlling nonpoint pollution imply that State or Federal funds will be expended for achieving higher water quality.

The fact that the plan calls for use of funds in so many ways implies that clean water or, if you will, erosion control costs are a long-term investment, something that farmers and landowners have told us by their actions time and again.

The fact is that many conservation practices have had rather small immediate beneficial effects and hence the return on the investment for the individual has often been much less than was potentially available elsewhere. When one considers that one farmer is most likely to farm approximately 40 years, any investment which has a payoff at a date beyond his or her anticipated retirement has little personal value unless that person is strongly committed to make some sacrifices for the next one or two generations of family members or others who follow.

As Pope John Paul II related on his visit to the Living History Farm in the fall of 1979, "The land must be conserved with care since it is intended to be fruitful for generation upon generation."

I would like to shift gears a moment and speak of the research that has gone into soil conservation work in the State of Iowa. We have in our departments of agronomy, agriculture, engineering, and economics what in my opinion is this Nation's best scientific base for dealing with the issue of soil conservation.

Historically, it has involved research teams from a number of disciplines because soil conservation is a complex of management, economics, machines, and of alternatives. It involves the partnership which is addressed in the Farm Agriculture Act of 1977, title XIV, involving coordination between Federal and State scientists on national and State priorities, soil conservation being one of them. Whether it be conservation tillage or integrated pest management, soil conservation has and continues to be among the top nine priority areas in research focus in the decade of the 1980's.

It was Dr. George Browning, former SCS conservationist and later associate director of the Iowa station and recently retired director of the North Central Research Directors Association, and his colleagues, who identified the Browning factors: the factors which effect erosion and which can be used as guidelines in developing farm erosion control plans under field conditions. These factors led to the development of the USLE, the universal soil loss equation, which forms a basis for evaluating erosion control practices and for setting guidelines on limits of soil loss which are tolerable.

Allow me to reflect on some of the early work in this area, if you will. Research is organized under projects. One of the earliest projects, No. 1064 entitled "Erosion Control and Water Conservation Investigations." Over a period of 20 years this project involved men like Browning and Dr. Frank Schaller who appeared before this committee yesterday; soil scientists, climatologists, soil physicists; some 10 people who trained 11 graduate students, many of whom today are the leaders in the soil conservation movement. They published upward of 60 scientific articles with an investment of $181,000.

After 20 years a conclusion reached in their project termination report read, and I quote, "Control methods have been developed and are well known. Problems are still encumbered in getting these adopted."

This project was closed on June 30 1969, and a new thrust developed to attack problems of a changing agriculture. Other projects to name only two, land use and soil conservation, targeted at identifying and evaluating specific reasons why farm owners and operators do not follow recommended land use practices.

Let me quote from a publication which summarizes those findings:

> Four major obstacles appeared to retard farmers in reaching the desired erosion control objectives. No. 1, change in farm enterprise primarily to more livestock on 40 percent of the farms. No. 2, rental arrangement and the landlord's cooperation, a problem on 34 percent of the farms. No. 3, mortgage indebtedness and annual fixed cash outlay for operating and living expenses on 30 percent of the farms. And No. 4, short expectancy of tenure on 19 percent of the farms.

Farm operators stated that these obstacles would prevent them from adopting practices to control erosion. This publication came out in October 1952. Today we have had upward of 60 scientists, 124 support people involved, and some portion of their time in 47 research projects directly or indirectly related to conservation tillage.

I think if we look to the future we need to rely on such kinds of programs as the one that Dr. Schaller who talked to you yesterday about the Traer Four Mile Creek area and the cooperative project between local farmers, county leaders, and those in various Federal agencies such as EPA and USDA and the State Agricultural Experiment Station. It was to be a 5-year project.

We are now finishing up on the third year. We are 75 percent closed out and we will be completely closed out on December 31, 1980. This in my opinion was one of the best programs of putting it all together and having the cooperation of local farmers to put BMP's on the land, a subject which this committee has addressed. Thank you, Senator Jepsen.

Senator JEPSEN. On the Four Mile Creek area project, was Iowa State involved?

Dr. MAHLSTEDE. Yes, sir. We were a part of the partnership that went on to this area. We have been working in the Traer Four Mile Creek area since the early 1940's looking at the geomorphism and the development of soils in that area. This has been an ongoing program cooperative with the U.S. Geological Survey, the Department of Soil

Conservation, the Soil Conservation District Commissioners, ASCS, the Cooperative Extension Service and the research component.

Senator JEPSEN. We intend to pursue that in more depth with the EPA when we return, you and I had a radio show together.

Dr. MAHLSTEDE. We did.

Senator JEPSEN. We talked about a tilth center. I think we pointed out at that time it is a little difficult to understand why we can't get $500,000 to start a tilth center, one of the most important resources we have in this Nation. We can provide $80 million to help fix the telephones over in Cairo, Egypt, but we can't get $500,000 to start a tilth center to preserve our soil in this great Nation of ours.

We are working on those priorities and I am pleased to say that I think that there is some light shining through and hopefully next year we can get something done on that.

Do you feel that soil conservation practices should be voluntary or should be on a mandated basis?

Dr. MAHLSTEDE. I believe two individuals that have preceded me have expressed what in my view is the commonsense approach. It's one of voluntary and I think the Traer project as it has evolved is evidence that this approach is sound and that farmers and people interested in maintaining a natural resource base are dedicated to maintaining the soil, given an incentive.

I think the incentive is there but the economics is part of that entire overall picture.

Senator JEPSEN. Susan?

Ms. SNYDER-SMITH. No, thank you.

Senator JEPSEN. Mac?

Mr. MCCARTHY. No questions. Thank you very much.

Senator JEPSEN. Thank you very much, Doctor.

I would like to introduce Jim Patchett, Story County Conservation Board, Hickory Grove Park, Colo?

Mr. PATCHETT. Colo.

Senator JEPSEN. Colo, Iowa. Welcome, Jim. You may proceed.

STATEMENT OF JIM PATCHETT, STORY COUNTY CONSERVATION BOARD, COLO, IOWA

Mr. PATCHETT. As a staff member for the Story County Conservation Board, I would like to take this opportunity to thank you for a chance to give testimony here for the soil conservation. The Story County Conservation Board was established by a vote——

Senator JEPSEN. Excuse me, Jim. Will you be following this verbatim for her benefit? Are you going to be following your statement verbatim, word for word?

Mr. PATCHETT. Right.

Senator JEPSEN. Thank you. Proceed.

Mr. PATCHETT. The Story County Conservation Board was established by a vote of the people in the fall of 1958 and began operating in January of 1959. Since those early beginnings the board has expanded its facilities and staff and become involved in a variety of areas of concern.

A portion of chapter 111A of the Code of Iowa gives guidance to the board: ". . . to promote and preserve the health and welfare of the people and to encourage the orderly development and conservation of natural resources. . . ." The Story County Conservation Board has developed a strong commitment toward the development of policies concerned with the preservation of prime agricultural lands and the implementation of soil conservation programs and practices.

Throughout this process, a fine working relationship has been developed between the Story County Conservation Board, the Story County Board of Supervisors, the planning and zoning administration, the Story County Soil Conservation District, and the citizens of the county. These cooperative efforts have resulted in the development of a number of soil conservation policies and programs over recent years.

On June 30, 1977, the board of supervisors adopted the "Story County Land Use Policies, Zoning Ordinance, and Subdivision Regulations," based on the concept of preservation of the county's high quality agricultural land, and to prohibit nonagricultural uses on prime agricultural land.

Presently seven counties in the State of Iowa have similar land use regulations which emphasize the preservation of prime agricultural land. The conservation board was instrumental in the development of these land use regulations and greatly supports the adoption of similar ordinances.

Soil conservation practices such as conservation tillage, contour planting, and terraces are necessary for protection against the loss of our fertile topsoil. Presently the conservation board farms 108 acres of agricultural land in conjunction with several of our county parks. Conservation tillage is utilized in each of these areas.

The conservation board, in conjunction with the Story County Soil Conservation District, was also fortunate to receive one of seven grants awarded by the Iowa Department of Soil Conservation during the 1979–80 fiscal year. Known as the Iowa till program, this directs the Department of Soil Conservation to cost share for incentive payments for minimum or mulch tillage on a per acre basis, in an effort to show the beneficial effect of conservation tillage. Watersheds comprising approximately 4,000 acres could be nominated. Story County's Hickory Grove Park, with its 98-acre lake and 4,750-acre watershed, was one of those seven chosen for the program.

Farmers must agree to sign a 5-year contractual agreement which requires that all operations shall be on a reasonable contour according to the Soil Conservation Service technical guide, that these acres shall be maintained for the duration of the contract, and that to be eligible for payment, the acres must have at least 50 percent of the ground surface covered by crop residue material after planting.

The department makes a one-time payment of $30 per acre with an agreement to maintain the "Iowa till" tillage system for 5 years. Should the farm operator not maintain the system to these specifications, then the farm operator shall pay back to the department the entire incentive payment received by the farm operator. Those acres under contract will be inspected by a representative of the soil conservation district each year to verify that the appropriate amount of crop residue material remains after planting.

Presently, 60 percent of the land within the Hickory Grove watershed is participating in the program and soil conservationists believe the loss of topsoil will be reduced to less than 1 ton per acre per year on those acres involved.

The State's soil conservation districts have recently been notified that the Iowa Department of Soil Conservation will again offer six to eight grants under the Iowa till program for 1980–81 fiscal year. Watersheds of approximately 4,000 acres in size may be nominated and the basis for selection will be geographic location, size of watershed, amount of participation in the program by cooperators in the watershed, and the percentage of new acres of conservation tillage.

We strongly support the concept of the Iowa till program where farmers are obligated to practice conservation tillage for a 5-year period. Professional soil conservationists believe that the use of a conservation tillage system for a 3- to 5-year period where the farmer can save time, fuel and soil, will convince many farmers to adopt this system permanently. The Federal agricultural conservation program gives the farmer a payment for a 1-year period. The farmer is not obligated to practice conservation tillage the following year. This has led some farmers to return to moldboard plowing the following year. If the conservation tillage program is not given a chance, is this then a wise use of Federal money? In which program has the American taxpayer received his money's worth and the land benefited to the greatest extent? We believe there is something positive to be learned from the State of Iowa's Iowa till program.

As for Federal cost-share moneys, these funds are not sufficient, and are often not administered in a problem-solving fashion. All conservationists agree that sheet erosion is the culprit as far as soil erosion is concerned. Conservation tillage, terraces, and contouring are the most accepted practices in Story County for reducing soil losses from sheet erosion to a tolerable level.

It is estimated by the USDA Soil Conservation Service that approximately 10 to 18 percent of Story County needs terraces. In linear feet, this represents a figure of approximately 10 million feet of terrace in conjunction with conservation tillage, will be necessary to reduce our soil losses on moderate to steep ground to a tolerable level of 5 tons or less of soil loss per acre per year. The district resource inventory of the Story County Soil Conservation District estimates we have 40 years, at the most, to get this job done before topsoil loss is so severe as to significantly reduce the productive capability of these soils. To complete such a task will require $375,000 of cost-share moneys per year over the next 40 years. Currently, Story County only receives $46,000 in Federal cost-sharing money per year. Unfortunately, 20 percent of this money is used to cost share the development of farmstead windbreaks. Although we strongly support the development of farmstead windbreaks, we believe windbreaks should be covered under energy conservation programs, retaining soil conservation moneys for the development and implementation of permanent soil conservation practices utilized for the reduction of sheet erosion.

The State of Iowa and Story County have also assisted in this dilemma by providing $55,000 for cost-sharing assistance to be used strictly for preventive sheet erosion measures. All sources totaled Story County receives $91,800 per year for the implementation of permanent soil conservation practices. This is $283,200 short of what the county actually needs to get the job of soil conservation done in order to protect this valuable resource so vital to our economy and subsistence.

In conclusion, it is important to remind ourselves of the unique land which we are so fortunate to possess in Iowa. Formed under the vast tallgrass prairies, this soil represents some of the most fertile land found in the world. Although Iowa ranks 28th in actual size of the States in the Union, it possesses 25 percent of the prime agricultural land in the United States. Due to the great necessity for the wise use of Iowa's soil resource, and the potential of its loss forever, along with the subsequent loss of our economic livelihood and high quality of life and well-being, the Story County Conservation Board strongly supports the adoption of farsighted land use policies which provide for the protection of our prime agricultural land. We also support Federal cost-share programs based on the formation of a contractural agreement over a period of years, in an effort to demonstrate the effectiveness of conservation tillage. We also request an increase in Federal moneys designated for use in the development and implementation of permanent soil conservation practices. The actions we take today will most certainly affect, not only those citizens of the State of Iowa, but also the citizens of our country and the world for many generations to come. Thank you.

Senator Jepsen. Super statement. The most informative and educational that was received. Your statement embodies many things that we had pieces of yesterday by various testimony. The fact that you handle with the Iowa till program which sounds exciting is not only, of course, the answer to water erosion but the wind erosion. You have got a dual purpose on that.

And the fact that you talk about it on a 5-year basis and you do point out one of the shortcomings that we have with some of the Government programs in that they really inadvertently may contribute to soil erosion in their practices and that they get paid for 1 year and they get right back and turn the soil over with a plow.

Mr. Patchett. Well, the professional soil conservationists I think, agree that if we just give the programs a chance to demonstrate the effectiveness of conservation tillage as compared to conventional farming techniques, that most farmers will adopt this program so we don't have to rely on regulations and this type of thing. They can be done on an incentive basis.

Senator Jepsen. Have the major implement manufacturers shown any interest in minimum tillage equipment? Have you had any contact with them at all?

Mr. Patchett. I personally have not had any contact at all.

Senator Jepsen. To your knowledge has there been any effort made either by way of direct contact? Do they have representatives that are working with the SCS people or your programs in the interest of developing farm equipment that will take into consideration soil conservation?

Mr. Patchett. Well, I know that, you know, there are new types of farm equipment being developed for conservation tillage. I probably myself am not all that familiar with those representatives although I am sure that they may be working with the SCS representatives.

Senator JEPSEN. Would it be accurate to say that the Iowa till program as it might be applied to Story County might not exactly apply the same techniques to northeast Iowa. Is there a difference in geography as you might apply the minimum tillage?

Mr. PATCHETT. Well, the minimum till itself used in conjunction with other conservation practices might be better used in northeast Iowa here where the lands are relatively flat in many portions of the county, especially in the Hickory Grove Lake watershed. We can get by with, you know, just conservation tillage itself in many areas.

We don't have to worry quite so much about contouring although we do try to work all of that into the program. In conjunction with all of those uses it would probably be more effective in northeast Iowa although conservation tillage itself is very effective here.

Senator JEPSEN. I think I recall you said the requirement for your program was to leave 50 percent——

Mr. PATCHETT. Right.

Senator JEPSEN. What do you call it? Trash or——

Mr. PATCHETT. Crop residue.

Senator JEPSEN. Crop residue?

Mr. PATCHETT. Trash.

Senator JEPSEN. Left on the soil. That figure according to some seems to be low. Others told us they were striving for 70, 75, 80 percent. Why the 50 percent?

Mr. PATCHETT. Well, I think—I am not—I am answering this out of my own opinion. I would think that this is the least that they would recommend for the cost-sharing program. Certainly if farmers want to adopt a no-till system, that this would be supported by the ASCS and the soil conservation district, but this is minimum to still receive the cost-share program.

Senator JEPSEN. Who set that minimum?

Mr. PATCHETT. I believe, I am sure the Iowa Conservation Commission or the soil conservation—the Iowa Soil Conservation set that.

Senator JEPSEN. Do you believe that conservation practices should be on a voluntary or a mandated basis?

Mr. PATCHETT. Well, I think that the intentions of the types of programs that we are seeing here are on a voluntary basis. They are incentive programs that are trying to demonstrate that we can do these programs ourselves without developing regulations which enforce that.

Senator JEPSEN. But you said your supervisors developed land-use regulations. Would you elaborate a little on that?

Mr. PATCHETT. OK. These land-use regulations are trying to control development from cities outward growth into prime agricultural land so that one of the stipulations of the land-use policy itself was to protect those types of lands that city growth should extend out into certain areas where the prime agricultural lands are and other areas. It's that type of thing.

It's to protect those prime agricultural lands so that new subdivisions and that type of thing will not be extending into the prime agricultural lands.

Senator JEPSEN. Story County, as I understand it, has a land-use regulation for prime agricultural land. Is that the way you would recommend it for all counties? Do you think we should have a State land-use plan or a Federal land-use plan?

Mr. Patchett. Well, that's a tough question to answer. Again I would have to say I would be speaking for myself and not for the conservation board themselves. If we can develop policies which direct us which absent—still give the—I think would still give the opportunity for freedom of judgment, but direct us into those areas which is very difficult to do. I can see the adoption of land-use planning on a statewide level for that. It's a very hard issue to try to come up with a quick answer.

Senator Jepsen. Would you want to make just a one-liner statement as to how you feel about Federal land use—about Federal land-use regulations?

Mr. Patchett. No. Well, I am not that familiar with exactly what work has been done.

Senator Jepsen. Well, generally do you favor the local approach versus the Federal approach to land use?

Mr. Patchett. I believe so, yes.

Senator Jepsen. Susan?

Ms. Snyder-Smith. Just one question. You mentioned that Federal cost-share moneys are often not administered in a problem solving fashion. I know one of the examples you gave was—the ACP program. Was there anything else specifically you can think of?

Mr. Patchett. No. That is what I was referring to specifically. We certainly—I know the soil conservation district for Story County and, of course, the conservation board, we are very supportive of the development of windbreaks and we would, you know—for their conservation, energy conservation reasons.

But the development of windbreaks, at least farmstead windbreaks, does very little for the protection of soil. And so I believe that the soil conservation district people were referring in this particular case to that and nothing other than those other than they felt and we feel that the 5 year—at least a 3 to 5 year potential basis gives a chance for the farmer to demonstrate that conservation tillage can work and we would recommend that the Federal programs be set up on this type of basis if possible.

Ms. Snyder-Smith. With regard to the windbreaks, did you have to institute that type of program as a condition for some of the money you received?

Mr. Patchett. Well, 20 percent of that money went toward windbreaks, right.

Ms. Snyder-Smith. Thank you.

Senator Jepsen. Mac?

Mr. McCarthy. No questions.

Senator Jepsen. Thank you very much. You have been very informative and very interesting presentation. Very well done.

Mr. Patchett. Thank you.

Senator Jepsen. I am going to announce at this time that after the next testimony we will take a 5 minute fifth inning stretch.

At this time I will now introduce Wayne Towers, president of the Iowa Land Improvement Contractors. Looking forward to hearing from you, Wayne. Maybe we will get some soil conservation ideas from you.

STATEMENT OF WAYNE TOWERS, PRESIDENT, IOWA LAND IMPROVEMENT CONTRACTORS, URBANDALE, IOWA

Mr. **Towers.** Thank you, Senator Jepsen. As president of the Iowa Chapter of Land Improvement Contractors of America, I am appearing today on behalf of 496 contractor members in the State of Iowa. LICA has chapters in 34 States working toward the formation of a chapter in every State. Nationally we have 4,000 contractor members that are dedicated to professional conservation of land and water. We have a spokesman in Washington to represent us, keep us informed of the actions in Congress that effect the LICA contractor and the conservation program.

And this is not in my script, but from some of the talk this morning about public education and conservation, last year was our first land and water exposition at Veterans Auditorium. We had about 7,000 people through there. In that we are trying to educate the public to the needs of conservation.

We invite everybody in this room and even those that might want to have a booth that would help us to promote the program of educating the public and we will stand the expense of the booth if it so fits what we want there.

Our executive secretary is here today that sets up the program, Mr. Kenneth Rasch. If you would stand, Kenneth, please for just a minute. Anybody that would like or are interested in coming to our exposition and helping us get this program across, talk to Mr. Rasch afterwards.

Senator **Jepsen.** All right. For our record would you please give us the date, the place of this so that we can have it in our record to take back with us.

Mr. **Rasch.** The date is January 18 and 19 at the Veterans Auditorium in Des Moines.

Senator **Jepsen.** January 18 and 19, 1981?

Mr. **Towers.** Yes.

Senator **Jepsen.** And is it the Iowa Land Improvement Contractors Soil Conservation Exposition?

Mr. **Towers.** Land and water exposition.

Senator **Jepsen.** Land and water exposition. And if I understood you correctly, anyone interested in conservation who would desire to have a booth there to give out information and further education, would be able to have one and you would arrange for it without any charge?

Mr. **Towers.** Providing it fits our program. You know, we can't just let everybody in. But if it fits the program that will educate the public, we will see that they get a booth, that's right.

Senator **Jepsen.** Thank you. That will be made a matter of record and I assure you a lot of people will be advised of this. You may proceed.

Mr. **Towers.** We very much appreciate the opportunity to testify in regard to soil losses in the State of Iowa.

Iowa has some of the most fertile soil in the world but we are allowing it to erode and wash away at an alarming rate.

We have approximately 26½ million acres of cropland in Iowa and most of it is devoted to row crops.

The average soil loss per acre per year on Iowa cropland is 9.9 tons. At that rate, the soil movement on this State's cropland is 261 million tons per year, making erosion in Iowa the highest in the Nation. The national average is 4.8 tons per acre. An acceptable rate of erosion is 1 to 5 tons per acre per year, depending on the soil type.

In the past 100 years, our topsoil has depleted from 14 to 16 inches in depth to 6 to 8 inches. That amounts to one-sixteenth to one-twelfth of an inch per acre per year. With today's farming methods, our remaining topsoil won't last another 50 years without drastic measures to conserve it.

I would like to mention this one-twelfth of an inch of topsoil that Mr. Lounsberry stated we were losing each year. An inch every 12 years which is a true statement. It takes from 250 to 1,000 years to replace an inch of topsoil so you see how much and how rapid we are losing our topsoil.

Water running off the land erodes more soil than any other natural force. Terracing is an expensive structural practice, but is the most effective in combating erosion on cultivated land. The application of terraces on the land is being accomplished at only 14 percent of the annual needed rate.

A 3-year study has been made by USDA's Economics, Statistics, and Cooperatives Service and the Soil Conservation Service on 2.1 million acres of southern Iowa land. The study concludes that the farmer should not be expected to pay all of the cost of protecting soil against erosion, nor would they be financially able to.

The study shows higher fertilizer and energy costs if erosion continues. It also projected lower crop yields even with more fertilizer on depleted soil.

Public problems associated with soil erosion, such as sediment and other pollutants in streams and lakes, were not included in the study, but certainly have to be considered. It didn't look at loss of tax revenue or higher food prices as a result of depleted soil. Nor did it consider resale value of wornout land.

If erosion is allowed to continue at present rates, the land will undergo drastic physical changes by the year 2020.

Of the 2.1 million acres studied, 26 percent of the land that is now slightly eroded will be moderately or severely eroded. That's by the year 2020. One-third of the land that is now moderately eroded will be severely eroded; 9 percent of the land is already severely eroded and that figure will balloon to 40 percent in the next 40 years or by the year 2020.

I believe these facts to be true. I've been doing conservation work for 25 years myself and have seen great changes in the depth of topsoil on cropland. We occasionally rebuild a terrace system that has been in for many years and find the topsoil still in place. But then we move to a new construction area on cropland of unprotected sloping land, and find there is very little topsoil left and in some places there just isn't any.

The effects of topsoil loss have largely been masked in Iowa because of the availability of commercial fertilizer. As erosion has taken more topsoil from the land, more fertilizer has been added to compensate. Extra fertilizer, along with improved crop varieties, has kept crop yields high but there are now signs that crop yields are reaching a peak and topsoil will be increasingly important in the future.

ACP funding is being cut every year and the need for more funding is greater every day. The ACP appropriations in 1940 was $532.5 million. Today, it is $190 million. That is a 62-percent cut. If all other Federal programs had taken the same percentage of cut, there would be no national debt today. It would take $526 million today to do what $190 million would have done in 1940.

Public opinion studies in 1978 revealed that Iowans are seriously concerned about our soil and water resources, soil erosion, water quality, the way our land is used, and the land's potential for producing food in the future.

Land Improvement Contractors of America are equally concerned. We must bring soil erosion down to acceptable levels.

If the U.S. Government actually believed we would be out of oil in the next 50 to 75 years, it would take drastic steps to conserve it. What about our soil? It is more valuable than oil. Oil can be replaced with other energy, but nothing known to mankind can replace our soil.

To accomplish the task of conserving the soil, we need the per farm limit of cost share raised. It costs an average in Polk County of about $600 an acre for a terrace system. That includes the tile and the terrace; $3,000 just doesn't go anywhere working on a farm. Some of the counties I know don't have the funds. I talked to a gentleman this morning that stated that about $500 was the most cost share he could get on his farm. You can see how far $1,000 would go on a terrace system. And let me add here, we are wasting money in that respect because to do a tile outlet terrace system we move trenching machines and earthmoving machines to the jobsite and a good part of a $500 cost share would be used up in moving costs.

Now, not very many contractors do all of the different types of work. There will be a tiling contractor and then the earthmoving contractor. The tiling contractor has to move in. He has to move his trencher, a bulldozer, and a backhoe. Well, those all cost money, and, of course, they have to be added into the job, just to move in.

He moves out. The earthmoving contractor moves his equipment in there. Well, when you only have a $3,000 limit on a job and you have to keep going back year after year for small contracts, you are using up a lot of that money just in costs of getting in and getting out. We would ask that if those could be raised, we can get more construction for the dollar on the land.

It is also important that the conservation construction season be lengthened by providing payment for setting land aside so conservation practices such as terraces can be installed during the crop season. At present we have a construction season of 120 days a year at best. Now, that's not very long.

Senator JEPSEN. What part of the year is that?

Mr. TOWERS. Well, in the spring from probably April 1 until May 30, if you can hold a farmer off that long from getting his crop in. And then from October through the end of November is about the very best you could expect and not too many years of that. So we have 4 months in which, at best, to get this work done; and you just cannot get it done in 4 months of the year.

Senator **Jepsen**. Do you do tiling also?

Mr. **Towers**. No. I am an earthmoving contractor.

Senator **Jepsen**. Just earthmoving?

Mr. **Towers**. Yes.

Senator **Jepsen**. Do most of the earthmoving contractors do or not do tiling along with it? When you put in terraces, for example, if you are going to take the total project, if you were to hire equipment people to do it—this is just a personal opinion—seems to be more convenient if farmers could contract with somebody to do the tiling and there is that part of the total project plus the terraces and so on.

Is that common or uncommon or not done or done?

Mr. **Towers**. Not too many contractors have both. I mean, you spread yourself so thin that—and the dollar investment is unbelieveable. And also right now we are in the process of schooling our people. We have seminars continually to help our tilers do a better job, help our earthmoving people do a better job, better techniques.

We work closely with the conservation service, the district commissioners. At present there are two different segments. The tiler comes in and puts in the tile and intakes and then the earthmover comes in and, builds the terraces.

Most of these fellows are members of our association and we work very close together. I would like to mention one thing that I saw just a few days ago. I drove by—I can't even tell you what church it was. But on the church marquee it said, "If you want your dream to come true, you must first wake up."

And that's what we need to do—the American public has to wake up or our dream is not going to come true to save our land. Thank you.

Senator **Jepsen**. Thank you. It's very interesting. I was very interested to hear of the time of year, 60 days in the spring and about 60 days in the fall, that you are limited to. And that certainly ties in with what has been said earlier this morning about the need for considering taking some land out of production to do the terracing and to do it right and to make sure they don't wash out.

And that certainly would be more beneficial to your planning too, if you could go in and finish a project and have the time to do it.

Mr. **Towers**. That's right. To show you what the difference would be, last year personally my company put in 115,000 feet of terrace. They had set-aside acres last year. This year, of course, we are going to be shut down from conservation work from approximately May 30 until when the corn comes off and it's just going to cut us way back.

Senator **Jepsen**. If you care to, and you may not care to, I would appreciate your commenting on whether you feel that the technical requirements with regard to size of tile, for example, as set forth by the SCS or ASCS are realistic. It was pointed out yesterday that some problems and extra expenses are required by Federal requirements that frankly aren't very realistic. Have you——

Mr. **Towers**. As far as tile sizes?

Senator **Jepsen**. Yes. In other words, they require a larger size tile in some of the terracing conservation projects than are really necessary.

Mr. **Towers**. I would say, Mr. Jepsen, on that, not being a tiling contractor, but I do know that in years past tiling systems were put in that met the need for the time to drain the subsoil. But now people are thinting terraces, and those tiles are not large enough to handle the surface water.

I know that all land is going to have to be terraced eventually. Any tile that goes in now should be put in to handle the terrace system at a later date.

Senator JEPSEN. Do you think that conservation programs should be voluntary or mandated?

Mr. TOWERS. Well, sir, knowing farmers, if they will do it, I would like to see it stay on a voluntary basis. If they won't do it—but I think they will. Farmers don't mind spending money on their land. They are not people that want to stick it in their pocket.

The farmers I work for, when they get some money in their pocket and their land needs some work, they are not afraid to spend it. If we can have cost shares that will help them and educate them to the needs and educate the public so they will let us spend money in that way, I think we can get it done on a voluntary basis.

Senator JEPSEN. Susan?

Ms. SEVREN-SMITH. No, thank you.

Senator JEPSEN. Mac?

Mr. MCCARTHY. No questions.

Senator JEPSEN. Thank you. Very interesting. We will now take a 5-minute recess to stretch. We will reconvene here in 5 minutes.

[A recess was held at this time.]

Senator JEPSEN. The meeting will come to order at this time. I recognize Chester Jones for a statement that we want to be sure we get in the record. Will you give your full name, your address, title, if you want, and you may proceed.

STATEMENT OF CHESTER JONES, KELLOGG, IOWA

Mr. JONES. Chester Jones. I am a tiling contractor. The comment I had to make was in answer to a question you asked Mr. Towers about the tile sizes.

In the past we have run tile in on what we call a three-eighths coefficient. In other words, we move three-eighths of an inch of water in 24 hours. Now, since we are going to a process of picking up surface water, we have to go to 1¼ inch coefficient which increases the tile size or should increase it.

If there is any controversy on why we lay the larger size tile, it's usually because the contractor wants the job pretty bad and the smaller tile costs less money. So therefore he uses it as a lever to get the job by less money. I have found out that—you have asked these people if contractors should be forced to do work. I mean landowners to do work. I found out that if the landowner is permitted to use his own contractor, it will hold the price down because he is going to hold it down.

If he had some government assistance or initiative to go ahead, we wouldn't have too much trouble getting the work done.

Senator JEPSEN. Thank you very much. I appreciate that. I now recognize Alvin Burchers, president of the Central Iowa Production Credit Association. Al, welcome. Glad to see you again. You may proceed.

STATEMENT OF ALVIN BORCHERS, PRESIDENT, CENTRAL IOWA PRODUCTION CREDIT ASSOCIATION, NEWTON, IOWA

Mr. BORCHERS. Mr. Chairman and members of the subcommittee, I do have a prepared statement which I would like to read into the record.

Senator JEPSEN. And you will be following that word for word?

Mr. BORCHERS. Right, I will, sir.

I am Alvin E. Borchers, president of the Central Iowa Production Credit Association headquartered in Newton, Iowa. Our association is a farmer-owned, farmer-controlled lending cooperative which is currently providing nearly $160 million in short- and intermediate-term loans to over 1,200 farmers and stockmen in our 10½-county area here in central Iowa. There are a total of 16 PCA's such as ours in Iowa and they are currently serving over 10,000 Iowa farmers with nearly $1.2 billion in credit for their operating, livestock, machinery and other short- and intermediate-credit needs. Over 20 percent of the short- and intermediate-credit needs of Iowa farmers are being provided by their locally owned PCA's.

I appreciate the opportunity to appear before this subcommittee to discuss the availability of financing for conservation purposes through the production credit associations. We provide short term (usually 1 year) and intermediate-term loans of up to 7 years for all needs of the farm family—that would include operating expenses, livestock, machinery, improvements and conservation practices. We tailor our loans for repayment over a 1- to 7-year period, depending on the purpose of the loan and the individual needs of our member borrower. We recognize the need and we are very supportive of providing financing for good conservation practices. We have an adequate, dependable source of funds available for such purposes to credit worthy farmers.

I think that we should be very proud of the outsanding and unusual efficiency of the American farmer. They have faced up to such serious problems as inflation and energy, yet it is very easy for many people to overlook the fact that we are the best fed and the best clothed nation in the world—and our people spend the least amount of hours earning the money to pay for these essentials of life. In addition, we have a large amount of agricultural exports to feed a hungry world and help our balance-of-trade deficit. Good conservation efforts and practices employed by individual farmers in partnership with Government over the years have contributed significantly to this efficiency and productivity success story.

The land is one of our most precious resources. It is at one and the same time part of our history, our heritage, and our future. Its past has shaped our lives. Its products provide our sustenance, and along with the accompanying resources of water and air, it helps give us our basic needs for life.

But the resource of the land is limited. It is being depleted and weakened at an alarming pace. In Iowa alone, a State that provides one-tenth of the Nation's food supply, one-half of our rich prime topsoil has been lost to erosion in 100 years of farming. As the land is blown away by the wind or is washed away by the rains, it takes with it not only the productive capacity for much of this Nation's food and fiber—but pesticides and fertilizer, which, with silt from erosion, can damage our State's public water supplies.

It has been estimated that one-half of the original topsoil—6 to 8 inches—has been lost from Iowa's unprotected sloping soils in the 100 years they have been farmed. This results in an average loss of 13 tons per acre per year, or one-twelfth of an inch of topsoil a year. This means that the remaining 6 to 8 inches could be gone in the next 100 years at that rate.

Farming is the main enterprise in the 10½ county area which we serve and it is diversified. It includes both crop production and raising of livestock. The cropping trend has shifted from crop rotation to more intensive row cropping. Under these circumstances, if soil erosion is to be controlled, the trend must be reversed or the use of conservation tillage with contouring and terraces must be increased. We cannot change the economic incentives that encourage farm operators to utilize more row crops, therefore, we must increase the application of conservation practices that are compatible with the production of corn and soybeans.

We recognize only too well that we have experienced some of the most trying and difficult times in agriculture from time to time in the 1970's and during the first half of 1980. This has been brought about by depressed markets and serious cost-price-squeeze relationships. I feel that the most severe problems confronting farmers and leaders today centers around the cost-price relationship brought about by high input cost, and then experiencing severe drops and fluctuations in the market price for the commodity produced. Invariably this creates high debts, lower repayment capacities, and the end result is an unworkable cash flow situation which makes it extremely difficult to at times secure necessary credit for capital needs including conservation. We have to understand that depressed prices which are received for agricultural commodities reduce the profit potential of many of our operators and when these conditions exist, it does not leave anything to pay for other costs or to invest in capital expenditures and other worthwhile projects, such as conservation.

By and large, I feel that farmers are basically good stewards of the land. They value their land and they realize it is a valuable resource. They also realize that the implication of poor conservation practices are felt by all Americans as well as the people of the world.

A recent Louis Harris poll shows that 82 percent of Americans feel the Federal Government should be responsible for protecting farmland from erosion; 67 percent believe that Government and landowners should share this decision. Recent public opinion in our own State revealed that Iowans are seriously concerned about soil and water resources. When asked to name the State's most important natural resource, they overwhelmingly picked the land. In addition, keeping that land productive ranked first as a resource priority among Iowans according to that poll. This should certainly indicate to us that the concerns centering around our conservation practices involve everybody—not just farmers and stockmen.

It would appear that, in recent years, conservation practices have dipped and they have probably done so because of the increased fixed costs which many of our operators are experiencing in their operations.

Maybe it is again time to evaluate and perhaps improve some of the economic incentives for our farm operators. This could include Government cost-sharing arrangements and/or tax incentives for conservation costs and investments. This would probably encourage them to invest more money into conserving our land and water resources.

While these programs may be very helpful, I think we must realize however, that many of our members will do all that they can to conserve their land with their own financial resources. When taking this into consideration, it is imperative that a healthy agricultural economy exist in order to assure that farmers will invest in soil conservation. Farmers and stockmen have demonstrated over and over again their willingness and desire to carry out sound conservation practices, and I am confident they will continue these practices if there are adequate funds available, and probably more important than that, economic incentives made available to encourage it. Our production credit associations are well aware of the need for soil conservation and we are willing to do all we can to finance it.

Mr. Chairman, I very much appreciate the opportunity to make this statement to you and your subcommittee.

Senator JEPSEN. Thank you. Very interesting and very well done. All first of all, do you feel that conservation practices should be voluntary or should be mandated?

Mr. BORCHERS. I think, sir, that they should be on a voluntary basis.

Senator JEPSEN. What percentage of your—of PCA loans, go for conservation type of practices?

Mr. BORCHERS. Oh, this would be awfully hard to determine. It would vary by area which we serve. In some of the areas, I am sure we would be funding more conservation practices or financing more conservation practices than in other areas.

Senator JEPSEN. Well, can we get a ballpark? Is it a small portion of your total loans?

Mr. BORCHERS. It would be small.

Senator JEPSEN. Very small. What is the procedure or requirement when a young farmer comes to you and says, "I would like to have a 7-year loan to do some terracing on my land." What would you do from that point on?

Mr. BORCHERS. Well, we would take his application and his financial statement. He would in turn provide us with a balance sheet. We determine his cash flow projections, his profitability, his new wealth potential.

Of course, we would evaluate the application based on his financial credit worthiness. For young farmers, sir, this is difficult.

Senator JEPSEN. That's what I was getting at. So your procedure for the young farmer on a PCA is essentially the same as every other finance or loaning institution?

Mr. BORCHERS. That's correct.

Senator JEPSEN. And the fact that he wanted to secure a loan to provide some soil conservation practices would be treated the same as any other?

Mr. BORCHERS. It would be treated as any other loan application.

Senator JEPSEN. I was glad to hear you point out, as many did yesterday, that you feel that farmers will and want to provide for soil

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conservation practices, but they are more eager to do so and likely to do so when they have a profit involved in their annual income off of their farming operations.

Mr. Borchers. That's right, Senator. When they have experienced some financial difficulties and the cash flow does not provide for capital spending and we are seeing this in the State today, conservation practices, I am sure, go to the bottom of the list as far as priorities are concerned.

Senator Jepsen. Susan?

Ms. Snyder-Smith. No, thank you.

Senator Jepsen. Mac?

Mr. McCarthy. Yes, a couple of questions. Mr. Borchers, when you make a loan for any type of conservation practice or activity, can that loan be made for just that activity or must it be in connection with some other type of production activity?

Mr. Borchers. It could be both, sir. However, in the case of loans for conservation practices, they are usually wrapped right into the line of credit that we provide. Our line of credit provides a full line to purchase livestock, crop production expense, machinery, and, of course, conservation.

There could be instances where the conservation practices might involve considerable dollars and it would be for the member's benefit to put it on an intermediate-term loan giving the member the potential to pay back in a 4-, 5-, or 7-year period. This is why it is extremely difficult to try to pick out a percentage of dollars that we have involved in conservation.

I am sure that we have dollars involved in conservation that we are not fully aware of. It's probably handled and treated as operating money for the particular member farmer which we have.

Mr. McCarthy. There is no impediment, though, toward someone coming in and talking to you solely about trying to get funding for financial assistance for conservation work?

Mr. Borchers. No, sir.

Mr. McCarthy. Second, as you probably are aware, Congress is still working on, and has pending before it, major additions and clarifications to the Farm Credit Act. Although the bill has been reported by our committee and passed by the Senate, there will still probably be a House-Senate conference down the line. Our Senators, therefore, may have the ability to have different items included in a conference report, although not in the statutory language.

Is there anything that you know of right now that you, working in the PCA, have noticed that would help in some manner or form in making financial assistance more available, or anything that is now in the Farm Credit Act that you may think binds or restricts you in some manner?

Mr. Borchers. I have been following the developments on the Farm Credit Act, sir. I see nothing right now. I think perhaps the 10-year ITL or intermediate-term loan portion could be very beneficial in cases of conservation practices, for instance.

By and large I think the other provisions of the bill, those that I have followed at this time, appear to be satisfactory.

Mr. McCarthy. Thank you.

Senator **Jepsen**. Thank you very much.

Mr. **Borchers**. Thank you.

Senator **Jepsen**. At this time, I would introduce Mr. Ken Kassel, chairman of the Iowa Soil Conservation Committee. We're glad that you are here and welcome you and look forward to hearing what you have to say this morning.

Mr. **Kassel**. Good morning, Senator, and welcome your staff to Iowa.

Senator **Jepsen**. Thank you. You may proceed.

STATEMENT OF KEN KASSEL, CHAIRMAN, IOWA SOIL CONSERVATION COMMITTEE, AYRSHIRE, IOWA

Mr. **Kassel**. This will be a written testimony and I have given my five copies to Mac so he has them.

My name is Ken Kassel. I am a farmer from Ayrshire, Iowa; a farmer and an owner and operator, a soil conservation district commissioner from the Palo Alto County Soil Conservation District; the conservancy district board representative from the Des Moines River Basin; and chairman of the State soil conservation committee.

I would like to speak this morning on the subject of soil conservation as seen from the State soil conservation committee perspective. The State committee is the policymaking board of the Iowa Department of Soil Conservation and does have broad powers over Iowa's hundred soil conservation districts.

We here in Iowa have a serious problem with soil erosion. It depletes the soil for future generations and its resulting sediment is our Nation's No. 1 water pollutant by volume.

Soil conservation work is an investment in our future and an effective anti-inflation tool. Every ton of soil lost depletes the production potential of the soil. It adds to the fertilizer bill. More energy and horsepower are needed to till less productive soil with higher clay content and less topsoil. It costs more to purify water and remove sediment from drainage channels, flood prevention structures, and water supply reservoirs than it costs to use time-proven soil conservation measures to keep soil where it should stay to sustain productivity. As productivity of the land is depleted, every bushel of wheat, corn, and soybeans, and every pound of red meat will cost more to produce, eventually adding to the consumer's inflation worries.

I believe redirecting some of our Federal dollars to prevent erosion, rather than to deal with its after effects, is an issue your committee should consider.

In Iowa, as in our Nation, the ultimate strength of our dollar depends on the strength of our land. Yet that account is being overdrawn.

I encourage your committee to thoroughly review the soil conservation partnership between the Federal, State, and local levels. I will review, for your benefit, what the State and local levels of government in Iowa are doing in soil conservation and ask you to consider how the Federal Government commitment is being maintained.

In the past 30 to 40 years soil conservation programs have been done pretty much by the same methods as they were done in the past. In the decade of the 1970's we heard a lot about water pollution and then nonpoint source pollution, but saw very little funding to land-grant colleges for agricultural pollution research and limited redirection in the 34 agencies of the U.S. Department of Agriculture on this approach.

Yet, at the State level, Iowa led the Nation in 1971 by developing the first erosion control law and establishing soil loss limits. To date we remain as the only State with established soil loss limits. We also established conservancy districts in each of our six major river basins in 1971 for comprehensive water management planning and assistance programs.

In 1973 Iowa became the first State in the Nation to invest State funds in a cost-share program for permanent soil conservation practices. In recent years seven other States have initiated State cost-share programs, but Iowa's annual investment of $6,479,000 exceeds the other States in total. Since 1973 Iowa has invested a total of $30,950,00 in soil conservation incentives.

In 1979 we initiated conservation tillage demonstration projects in seven counties and became the first in the Nation to set a goal of 50 percent surface cover by crop residue, as a goal for several farmers to achieve and maintain for at least 5 years on a watershed basis. We believe that by using the Iowa till management idea farmers can reduce erosion losses substantially until they can invest in terraces on steeply sloping row crop land, and reduce erosion losses to acceptable levels on more gentle slopes, saving soil, fuel, moisture, and time. This management technique can replace or reduce cost intensive permanent soil conservation structures such as terraces.

In 1979 Iowa also led the Nation by initiating a wind erosion control incentive program.

The State appropriated $25,000 to the Soil Conservation Service to accelerate watershed planning last year and spent over $2 million for clerical and technical personnel assigned to Iowa's 100 soil conservation districts.

In addition, since 1967 the State and county governments have pooled funds to cooperate with the Soil Conservation Service in an accelerated soil survey program, which totals slightly over $700,000 annually of county and State funds.

Last year 25 counties made first-time-ever appropriations to soil conservation districts, following the pioneering effort of one county in 1979, and totaled $500,000 of local support. This comes through the local supervisor organization, county supervisor groups.

My reason for telling you this is simple. Iowa leads the Nation in the amount of non-Federal investment in soil conservation, nearly $13 million in 1979, yet we rank eighth in SCS budget amounts allocated to States. Doesn't Iowa deserve more from the Federal part in our partnership?

Iowa leads the Nation in corn production, is second in soybean production, leads the Nation in red meat production, yet we suffer the greatest tonnage loss of soil due to erosion in the United States.

Since 90 percent of Iowa's agricultural production is shipped out of State and approximately 30 percent of it enters the international trade channel, which helps maintain a desirable balance of trade and pays a share of the oil, shouldn't the Federal Government's investment in soil conservation research, cost share, educational and technical assistance in Iowa be increased?

Many States have increased their soil conservation support at the ounty and State level. Many have been innovative in their aproaches to resolving the problem. Perhaps the time has come to conider grants to States to encourage more local leadership. Perhaps he time has also come for a redirection in assistance to States or egions which suffer the greatest soil losses from a soil depletion perpective.

Federal policies have been based on the idea of stabilizing producion and not on the principle of protecting the soil and water reources.

A review of Iowa's soil resource situation will give some idea of our eeds.

There are 27 million acres of cropland in Iowa.

Approximately one-third is adequately treated. Perhaps the easiest ne-third in regard to people who would voluntarily respond to the tewardship ethic.

Of 18 million acres with erosion problems at levels two and three imes the rate at which the soil is regenerated, 14 million acres have water erosion and 4 million acres suffer from wind erosion. Approxinately 500,000 acres of woodland and 1,400,000 acres of pasture also have erosion problems.

We have lost one-half of the topsoil, formerly 16 to 18 inches average depth, in 100 years.

At the current annual rate of accomplishment, we will complete the task in 150 years, but by then there will be no topsoil.

To accelerate our efforts to accomplish the necessary work in 25 years, this year's accomplishments would have equaled one-fifth of what should have been done.

Of 130,000 farm units in the State, 70,000 have received some form of assistance in 40 years.

Twenty thousand of those 70,000 farm units have conservation plans considered adequate.

Therefore, 50,000 farm units need assistance in revising plans, while 60,000 need first-time contracts, which totals 110,000 farm units needing assistance.

Based on this information and with knowledge that full grain bins had provided a false sense of security, Governor Ray and the Iowa Legislature established a program called Iowa Soil 2000, which provides a 20-year master plan and establishes the goal of reducing soil losses to nondepleting levels by the end of the century.

New responsibilities for soil conservation district commissioners and new options for cost-share and erosion-control programs, new objectives for soil conservation information and education programs, and new options for conservancy district programs, and a $1 million supplement to the State's $8 million annual appropriation resulted in 1980.

This was done in spite of the fact that Iowa lost $26 million of Federal revenue sharing due to Federal costs and our agricultural economy has suffered heavily due to farmers' ability to transport grain in a timely manner due to bankrupt rail lines and their assets being frozen due to the grain embargo.

We are disappointed to realize that, while the State and county levels of support have grown, there has been a lack of commitment at the Federal level to even continue programs at previous levels.

The rural clean water program was to provide funds for nonpoint source pollution control as is provided for point source control construction grants. Yet, only $20 million—a pittance of the original plan—was funded to implement a program which was implemented by a different USDA agency than State sponsors had been told to work with. Although Iowa was fortunate to receive funds for 1 of the 18 projects funded nationwide, local people who had donated many hours to this program developing plans and project applications were disappointed.

We, likewise, were also disappointed to realize that the Four Mile Creek project, funded to get all the research equipment in place and farmers willing to cooperate in various land treatment efforts, will not continue to be funded. This is not acceptable as any form of responsible Government action. We need research badly in agriculture regarding reduced tillage, disease and weed control, and crop nutrients. And, Senator, I have a letter here from the State committee that I will give to you when I complete, regarding the Four Mile Creek project.

To the landowner who is ready to spend disposable income on soil conservation, timeliness is a virtue. Unavailability of cost-share funds, and worse yet, a technician not available to assist him in design and installation for several months, can often result in no work being done or possible efforts by the farmer and a contractor which often fail and result in loss of the investment and future willingness to cooperate with the soil conservation district.

The Federal Government has failed to maintain its commitment to soil conservation through above inflation rate increases to SCS for technical personnel assigned to districts and to the ASCS for cost-share incentives. In fact, the $190 million appropriation to ASCS has not increased in the past 10 years, yet the inflation rate for building a terrace jumped nearly 20 percent last year. SCS has lost more than 1,000 positions in the last 10 years, and even with an increase of 8 percent in the conservation operations budget for 1980–81, it will be 500 positions short of where it was last year. If the current hiring freeze continues, SCS will be 1,000 to 1,500 positions below 1979 staff levels.

This concludes my paper and I appreciate the opportunity to address your subcommittee. Thank you.

Senator Jepsen. Thank you, Ken. Very well done. In fact, you have given me some good verbal ammunition and arguments that I want to steal in building my case for assistance to the Soil Conservation Service—certainly as it applies to Iowa.

On page 3 of your testimony you state that since 1967 State and county governments have given over $700,000 of their funds annually to complete an accelerated soil survey program. Is this related to the goal of having a soil conservation plan for every acre by 1985?

Mr. Kassel. Yes; the soil surveys will be a very accurate measure in using the development of a plan for a farm, yes. You know, it's geared—I don't think it will be done quite by 1985 but probably by 1988, yes.

Senator Jepsen. Your projection is that by 1988 we should have every acre of Iowa surveyed?

Mr. Kassel. Right.

Senator **Jepsen.** And the makings of a plan in place for what should be done by way of soil conservation?

Mr. **Kassel.** No; we won't have a plan, I don't think. But by 1985 according to Iowa's Soil 2000, we should have a plan if we have funds available for every farm in the State, yes.

That's the Iowa Soil 2000 plan. The first 5 years is planning and next 5 years there will be more pressure applied as time goes on to do more. See, once you have a plan then we will work from there.

Senator **Jepsen.** Do you believe that soil conservation practices should be voluntary or mandated?

Mr. **Kassel.** Oh, I think they should be voluntary definitely. I think I could comment on that in our area, which is northwest Iowa. When I drive to Des Moines, you see a lot more voluntary soil conservation particularly conservation tillage over the last 2 or 3 years. A tremendous amount of farmers are not plowing corn stalks in the fall and bean ground is not being worked either at all in the fall like it used to be.

No plowing, no chiseling, even. It was just left like it was when the combine left. To me, this is great. I really feel that as we go along with the voluntary approach, we will have more farmers see and look at what their neighbors are doing. Well, I think I will try it too. I think it's going to work. When you get down to the last 5 percent, I don't know. But if we get within 5 percent, we are pretty close.

Senator **Jepsen.** It's very interesting that you brought that up. We went to see what was called a conservation mile up by Hudson, Iowa, yesterday. They have the signs out there, and one of the farmer's whose topsoil loss was highest, he went out and took the signs down this year and changed his practices for farming. So that peer pressure does have some bearing, and even though it may not be the most positive way to get things done, if it's part of a way that we can help conserve our soil, why so be it.

Mr. **Kassel.** Well, let's face the fact that if we went mandatory with soil conservation, it would take a lot more people to get this done where if you go voluntary and you use a demonstration plot as a lot of farmers do and other people see it, it's the cheapest and easiest way to go. And I think we will get a tremendous amount done at a low cost, too.

Senator **Jepsen.** Susan?

Ms. **Snyder-Smith.** No; thank you.

Senator **Jepsen.** Mac?

Mr. **McCarthy.** No, sir. A very helpful statement. Thank you.

Senator **Jepsen.** Thank you, Ken.

Mr. **Kassel.** You're welcome.

Senator **Jepsen.** I now recognize and introduce Fred Higginbottom, chairman of the Polk County Soil Conservation District. Fred, welcome and looking forward to hearing your testimony.

STATEMENT OF FRED HIGGINBOTTOM, CHAIRMAN, POLK COUNTY SOIL CONSERVATION DISTRICT, MAXWELL, IOWA

Mr. **Higginbottom.** Senator, I have a prepared statement and I have submitted those and I will be reading from that statement, if it's agreeable.

Senator **Jepsen**. Fine. You may proceed.

Mr. **Higginbottom**. Senator Jepsen, members of the Committee on Agriculture, Nutrition, and Forestry, ladies and gentlemen, my purpose here this morning is to relate the experiences and concerns regarding soil conservation matters from the perspective of a Polk County Soil Conservation District commissioner.

My name is Fred Higginbottom. I'm a full-time dirt-on-the-hands farmer from the northeastern part of Polk County. I presently serve as chairman of the Polk County Soil Conservation District—the district that encompasses the city of Des Moines as well as 260,000 acres of rural Polk County. More than a quarter of a million people comprise the district's constituency.

It might be expected that soil conservation district programs would be pretty obscured in the midst of the profusion of government centered in the State's capital.

On the contrary, Polk County Soil Conservation District's programs have been innovative, progressive, and highly visible. I assure you the district is proud of what has been accomplished.

Support has come from responsible farsighted city and county government, and rural and urban citizens alike. A few years ago, urban-oriented people would have been considered unlikely allies in an effort to combat what had been considered a rural people's problem. The fact is that urban people have become not only enthusiastic supporters but are a strong motivating force in dealing with what is now perceived as a matter of paramount importance—maintaining the food-and-fiber base of this State.

In my view, we don't need new and revolutionary techniques or governmental programs to adequately deal with erosion and sediment problems. Study after study, poll after poll—yes, hearing after hearing—all seem to point pretty much to the same course. Foremost, we need citizens that are convinced that they have a vested interest in what happens to the land and share the responsibility for maintaining its productivity. Next, we need inspired leadership that is willing to do what is necessary through the long pull. We need predictable, continuing financial incentives to aid landowners in defraying part of the cost of soil conservation improvements. And we need adequate numbers of technicians available to consult with people in control of the land and aid them in installing control measures.

Owners of agricultural land within Polk district may secure cost sharing for permanent practices from three sources. First, is the Polk County Agricultural Stabilization and Conservation Service, second from State cost-sharing funds administered by the Polk County SCD commissioners, and third, county cost sharing also administered by the district.

For 1980 these three funds total $225,000—ASCS $50,000, State $40,000, and county $135,000. Cost-sharing funds together with the landowners own share of costs will amount to $295,170.73. Almost $300,000 in new construction for terraces, detention structures, et cetera for 1980. Not too bad when compared to many other districts. However, this represents about 28 percent of the 1980 Polk County cost-share signup. That's right—signup amounted to $1,039,720.73 in total project costs. That means $774,000 worth of construction will not be built because the cost-sharing money won't stretch far enough.

The commissioners in Polk district are practical men and women. We know that striving for a balanced budget in Washington D.C., a 3.6-percent rollback in general fund expenditures for State departments, and a closeout of revenue-sharing funds at the county level makes this hardly the climate for meeting cost-share needs in full. In fact, we're very concerned that maintaining service at the present level will be possible.

It seems to us that "voluntary" soil conservation can be sold on our present terms at a faster rate than we can deliver the public's share of the cost.

Where are the technically qualified people going to come from to design, lay out, and inspect conservation improvements? Where are the career people going to be found to train and supervise technicians? These are questions that are becoming of greater and greater concern to all commissioners. Year upon year of personnel restrictions imposed on the Soil Conservation Service is being felt.

Polk district at present is without the services of a full-time district conservationist. To be sure one will be assigned in due time because Polk district's program is of the magnitude and complexity that it warrants a GS–12 slot. This probably means we'll be able to steal a top individual from some other district. The ranks of district conservationists have been bolstered, in the past, by university-trained men and women serving in the capacity of soil conservationist under the direction of a seasoned district conservationist. Adequate numbers of soil conservationists are not presently trained and available. In fact, they are not in the training process. So where does that leave the district whose district conservationist we'll steal?

District conservationists and soil conservationists are not the only "endangered species." Slots for engineers and administrative personnel in area offices and in the State office have been left vacant in deference to providing at least minimal staff in each district.

New responsibilities such as soil loss limits complaints, cost-share administration, clean water programs, and so on call for greater numbers of competent people not fewer numbers.

There are no new and exciting ideas presented here. A good system has evolved through a number of years experience.

The battle against soil depletion isn't particularly glorious or electrifying. It involves dogged, painstaking perservance by many people who refuse to be discouraged by a gargantuan task.

Abra kadabra works only in fairy tales.

Thank you for your time and attention.

Senator JEPSEN. Thank you, Fred. I wish you would have been assigned to me last year when I fought against the SCS personnel cuts we had, and we got the job done and stopped it and we have a bigger one facing us next year. But hopefully these hearings will help to provide a foundation with some justification and some education, if you please, to get this so we don't have to talk about the abra kadabra type of activity. Now you see it, now you don't. But we have experienced, in the Soil Conservation Service, a good direction in the last few years.

Do you believe that soil conservation practices should be voluntary or mandatory?

Mr. Higginbottom. I absolutely believe that they should be voluntary. I don't think that the public and the Congress and the State legislature has shown their willingness to put up the public share of the cost so that we could conceivably proceed with a mandatory program.

However, I do believe that the system in Iowa for bringing relief to somebody that's incurring damages from an adjacent property is wise and workable and we don't—fortunately, in Polk district we haven't had to go the full course on requiring the installation of improvements. However, complaints have been received and have been handled on an amicable basis. We don't expect that will last forever.

Senator Jepsen. It was interesting that you said you had some 260,000 acres, I believe.

Mr. Higginbottom. Yes, sir. That's rural, county.

Senator Jepsen. Rural area?

Mr. Higginbottom. Yes, sir.

Senator Jepsen. Many people, I think, when they think of Polk County, think of Des Moines and West Des Moines, the sprawling suburban sidewalks and not 260,000 acres of rural land. That is an interesting statistic.

Mr. Higginbottom. Yes.

Senator Jepsen. You also indicated or I gather, that you had splendid cooperation from the city council and urban officers. Did you do anything special to develop that?

Mr. Higginbottom. I am not sure who did it. We presently have serving a lady commissioner that is a resident of Des Moines. We have also had commissioners that have had no active interest in a farming operation. They have proved to be some of our most faithful and ardent supporters.

Senator Jepsen. Would you say that for rural areas that are the hinterlands of the urban cities, the larger ones in Iowa, that it would be a good idea to have some commissioners from the city?

Mr. Higginbottom. Based on our experience, I think it would be.

Senator Jepsen. Susan?

Ms. Snyder-Smith. Do you expect the State budget cutbacks to effect the State of Iowa conservation programs?

Mr. Higginbottom. Yes, ma'am, I am afraid they will. We presently have a—this is as good a time to put in a little pitch for some extra funds, but we have a request in to the Iowa Department of Soil Conservation for additional funds. Now, we have, as you may have noted in my presentation, we have $740,000 worth that are planned and are waiting these funds.

We are hopeful that we are going to get a portion of those. We don't know yet whether that's—where that 3.6-percent reduction is going to fall. We rather expect it will come from cost sharing.

Ms. Snyder-Smith. Thank you.

Senator Jepsen. Mac?

Mr. McCarthy. No questions.

Senator Jepsen. Thank you very much, Fred, and congratulations on a good job.

Mr. Higginbottom. Thank you.

Senator JEPSEN. At this time I would introduce Ervin Koos, director of the National Association of Conservation Districts. We have had some good visits before. Good to see you again. Welcome.

STATEMENT OF ERVIN KOOS, DIRECTOR, NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS, SHELBY, IOWA

Mr. KOOS. Thank you.

I have handed in a prepared script but with your permission I would like to deviate from that. It does contain some lengthy explanations of some things I would like to talk about.[1]

Senator JEPSEN. Your script will be made a matter of record as if read, and you may summarize and hop, skip, and jump or whatever you so desire.

Mr. KOOS. Thank you very much. Mr. Chairman, members of the subcommittee, I am Ervin J. J. Koos, of Shelby, Iowa. I am a farmer. I am commissioner of the East Pott Soil Conservation District, a member of the board of directors of the National Association of Conservation Districts, and chairman of NACD's research committee. And I am proud to be among the 17,000 locally elected and appointed conservation district officials in this Nation providing assistance to over 2½ million landowners in solving conservation problems.

We have here in Iowa some of the richest farmland in the world. Our soils are deep and fertile and yet it is estimated that for every bushel of corn that is harvested, there is a bushel of topsoil that leaves the field as a result of erosion.

Erosion from much of the land is insidious, not easily detected and, for the most part, the losses in fertility have been masked by the increased use of commercial fertilizers. At the present time there are many areas of this Nation which are suffering from extreme periods of high temperatures and drought conditions.

Since the national soil effort was originally started in response to the extended drought conditions of the Dust Bowl days in the midthirties, the question arises as to whether or not the soil conservation efforts over the past 40 years have paid off under present conditions. Our national association and USDA are independently attempting to survey the present situation to determine some of these interrelationships. Although our study is not complete, early returns indicate that the farmer who has installed and is maintaining a good conservation program on his land is much better able to withstand drought conditions.

Drought in the Great Plains and torrential rains in the more humid portions of the country are a recurring natural phenomena which should be expected and planned for. In that sense these conditions should not be considered disasters. Their effects can be minimized through proper soil and water conservation practices, properly installed and maintained.

You have heard many testify up to now and probably will for the rest of the 2 days, hear many of the same things that I have included in my packet, and while all relate to probably the same situation.

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[1] See p. 225 for the prepared statement of Mr. Koos.

But I just would like to make one statement in regard to the financial efforts of the States and the counties, is that they, the States and counties combined, are not in a position to shoulder this entire load. Thereby their contribution does not relieve, which I feel is the national proportion of that expense involved, I am sure you know that. The National Association of Conservation Districts in their programing have to come up with a program that meets the needs of the whole Nation, yet need to be in such a situation that they can be applied to the individual States.

And so our association is very interested in some of the many laws that are passed and also the appropriations that come forth. I think you know that by law the Soil Conservation Service was designated as a technical agency for districts.

At this time we have a tremendous concern, which has just been stated by the speakers previous to me of the curtailment of technical help and also appropriations, and how they more or less interject back and forth one time on one side and one the other.

At this particular point, and since we are coming to within about a month and a half of fiscal 1981, we still don't have any budget assurances and we see that the administration's proposals and the House proposals do not adequately take care of the needs as we see them. I have in my packet to you a paper of our explanation of what we think is about 25 to 30 million short of even holding the technical assistance level at the 1979 base.

Also we know that the Soil Conservation Service, the Agricultural Research Service out of SEA is probably in about 30 years of tenure which means many possible retirement age people on the staff. We also know that they had many early retirements occur on the 29th of February, and immediately a directive came down from the administration for zero hiring. And finally, it was relinquished to 4 for 10. How in the world, even if we had adequate money under those restrictions can we, as Fred Higginbottom just said, have a district conservationist in every district, which they need, if districts are going to carry on any type of soil conservation program.

Also we can take a look at SEA–AR, Agricultural Research that we support appropriations for, for research technology. How in the world are we going to get along in a time when we again need another level of new technology and by another level I mean back about 15 or 20 years we had many breakthroughs that were very essential to our continuation, yet are getting to the place where the eroded resource limits that resource so it can again accommodate some of these technological breakthroughs. We also find that SEA had some 200 early retirements and now are only able to replace 4 for 10, irrespective of how good the appropriation.

We also are a little bit at a loss as to the operations of the budget procedure nationally. We know that an agricultural budget comes down each year and intermediately about 85 percent of it is for fixed cost. That only leaves 15 percent for everything else.

We have been finding that when we get through, and the appropriation for any fiscal year is set, we probably end up with one-tenth of 1 percent of the total budget. Now, if we are going to, in this Nation, call on our resources, our soil, to provide food for us domestically and maybe for the world, provide a balance of payments, used for food stamps and school lunches and things which are essential, now we are talking about taxing the soil for energy substitutes in the way of fuel, and, of course, you know every defense measure, the product of which comes from the soil, how in the world are we going to keep that up if we cannot get enough appropriations and manpower and research to continue to provide all these things and make us a strong nation.

I happened to hear from the administration's economist. He said that there is no sense of bringing any appropriation figure or any action to them that doesn't or that can't be justified economically. How in the world can you say that saving that important resource—the soil is not the most important thing in the world, in spite of short-term economics at this particular time?

If we can continually provide for everything else, that should be our first concern. Why isn't economics involved when you can keep the soil where it is and keep it productive rather than spending the millions of dollars to get rid of it after it has eroded away to where it's a detriment to us? I mean, clear water and all those type of things.

And then we become a little bit confused as to the method of congressional laws with authorizations and the specific amount of money we get authorized for those projects. I would like to cite you just a few that I want to use for my example.

Way back years ago in the Soil Conservation ACP Act there was included in the law an authorization of $500 million. And to my recollection I think the highest appropriation we have ever had is $225 million. And we got that back when costs were about maybe a tenth of what they are today.

Since that time and since the need has risen drastically, we have had to be satisfied with figures of $90 million, zero recommendation, a $190 million and I understand that 1981 now will probably even end up as $160 million which is $30 million less than has been printed in the budget.

With that recommendation and with that emphasis of importance, why can't we or I guess I should say why can't you as our elected officials, have this percent of cost share and appropriations for soil conservation, which is what we are going to have to maintain ourselves on, put in the budget as a fixed cost, having it be constant and having it be adequate? I know that's quite a demand, but have adequate personnel attached thereto so that we could go ahead and carryover from year to year the programs that have not been able to be completed in that short period of time, that a couple speakers ago recognized that we have for the construction of the soil conservation measures. I think with that, maybe I have given you some of my ideas, some things that we might talk about. I now thank you. I know you are familiar with the national association organization, and its office and its staff right in the Washington level where you can get firsthand information as to the projects and the programs that we are trying to help get across so we can take care of the soil conservation needs in our Nation, because I believe you would agree with me that this need is here forever.

Now, a closing statement. I would like to say that we in NACD and myself as an Iowan are extremely proud of our Iowa program. It's a very unique program. I think you can agree to that. And all the States in our Nation cannot have such a program, but we want to be sure the Federal Government looks at it as a supplement to, and not a substitute for, the national program.

If the United States is to maintain the productivity of its resources, to meet the ever increasing demand we place on them, we must have a complete, consistent and adequately financed national program. And I guess we look to our elected officials to see to it that it's provided. Thank you.

Senator JEPSEN. Thank you. Do you believe that conservation practices should be voluntary or mandated?

Mr. KOOS. I believe they they should be voluntary. I think they can be if the programs are so that they can depend on consistent cost sharing to make them available.

Senator JEPSEN. Susan?

Ms. SNYDER-SMITH. I just had a comment. You mentioned your view that the money should be carried over from year to year. The committee is looking at that and has sent a letter over to the Agricultural Appropriations Committee to ask them to consider that. That was just done, I think, last week or so.

Mr. KOOS. I think you will find also that a sheet attached to my testimony talks about that, the issue paper, the need of restoring the no-year funding authority and I think the Senate is in a position, if they so desire, to maybe get that removed yet before we go into the fiscal year 1981.

Ms. SNYDER-SMITH. If the Appropriations Committee feels like doing it. Thank you.

Senator JEPSEN. Mac?

Mr. MCCARTHY. No questions.

Senator JEPSEN. Thank you very much. Excellent testimony. You mentioned the preventive maintenance type of cost savings that conservation provides and the next gentleman we will hear from, George Calvert, deputy director of the highway division for development, mentioned yesterday that it costs a lot of money when you have improper or inadequate soil conservation practices. The soil has to go somewhere and a lot of our soil goes in the ditches and fills up the culverts, costs the DOT, and gives them fits. It costs a lot of money. Looking forward to seeing the slides that we missed yesterday, George, and you may proceed.

STATEMENT OF GEORGE CALVERT, DEPUTY DIRECTOR, HIGHWAY DIVISION, IOWA DEPARTMENT OF TRANSPORTATION, AMES, IOWA

Mr. CALVERT. Thank you very much. We do welcome the opportunity to tell you and the people in attendance here some of the problems that we have with erosion and some of the solutions that we have for those erosion problems.

I will deviate from the written presentation today in a considerable amount in order to try to show you in a little bit more detail of what we actually do. Soil erosion is a serious problem. It's very costly for the Iowa Department of Transportation.

Our maintenance costs annually are about half a million dollars for removing and cleaning the ditches and pipes along the roadway.

This material is washed onto our roadway with the heavy rains in the springtime and it's not uncommon to have our ditches partially or fully flooded with alluvial deposited material. This alluvial deposited material that causes us a problem is a valuable asset to the farmer. If he is going to get a good crop, he must have this material available; they are a great aid in producing bumper crops.

Now, in addition to the material that's washed on and is blown on to our right of way that causes us problems, we generate some erosion control problems of our own. I want to show you with slides how we handle these erosion control problems and what solutions we have for them.

When we have completed a grading job to the point we can do this, we come in and start seeding. This is a typical seeding operation that you see here on a freshly graded foreslope. We select seeds that will provide a good crop cover for us and a good root system. Of course, we fertilize them as the farming industry does, in order to make this grow faster, and stronger so that the root system develops and we get the necessary ground cover to stop the erosion problem. In areas where we need to and in the fall of the year we spread straw on the surface as you see here. Then it is stuffed into the ground with this kneading operation. This keeps it from being blown away and stops the erosion until the seeding operation has taken root.

Here's what we are after. We want a good root system that extends a foot or more into the ground and stops erosion. We have selected seed materials that will give this to us in a very short period of time. This is a nurse crop that you see here which is basically rye. We put it on immediately after the grading is completed and before any erosion can start so that we don't have those safety features that we build into the roadway system washed away.

The straw that comes from the rye is cut and blended into the surface and acts as a mulch material for the seed bed. It stops erosion until the root system develops and until the ground cover develops further.

This is the way we treat a ditch section. We seed underneath this material which you see here. This material is placed over top of the seed bed and is fastened down. It will hold the erosion until such time as the seed bed develops.

Here's a picture of that seedbed working real well and here you see a silt fence that we put in the ditch bottom. This material is a cloth-like material and is erected on a woven wire fence with steel posts, easily erected, and very inexpensive. The water must filter through that material before it proceeds on down the grade. This holds the soil fraction on the other side of these silt fences and has been very satisfactory for us. As you can see, has permitted the excelsior mulch that we have on the bottom to hold the seed in place until the seed has developed and grown.

Here is an intake to a box culvert. We put the silt fence around this so that all the water that is going off the project is filtered through this screen before it gets into the outlet structure as you see here. This is a very effective system.

Here we use a silt fence to separate the soil from the water. Keep the soil on our roadway and keep it off of the adjacent farm and out of the streams.

Here you see the silt curtain as we call it in this case. This is suspended to the bottom of the lake. In this instance we are putting rip-rip in the lake and it stirs up silt and mud. This is entrapped behind the silt curtain and stops any pollution of the lake or the river that's involved.

Here it shows you exactly how good these silt fences do work. This is in a ditch and all of this soil that's accumulated on the upper side has been trapped here and held back. Held in place where it can be respread very easily. Here you see a settling basin situation. The ditch that goes downhill here on a pretty good grade. If we didn't have these settling basins in here the water would start rushing down and would erode that ditch. But, we put in check dikes at regular intervals along the ditch and the water is impounded behind them and allows the soil fraction to settle out. As it tops the dike and goes on down, it's clear water and the soil is held in place by the silt settlement areas.

This is a typical rough texture that we give to our backslopes and foreslopes prior to planting. We loosen this up good, leave it chunky and rough so that the water can soak in and the soil will not wash away.

Here's a pond that has been developed from a borrow pit. When we build our roads, we have to have a considerable amount of soil to build the road fill. In this instance here we have taken a few acres and gone deep. It costs us a little more to do this but we end up with a pond that can be used for both recreational facilities and for wildlife. We think these are very attractive.

Here is another thing that we do that we think is rather innovative. By the use of this helicopter to seed and to fertilize, it is not necessary for us to destroy the ground cover that is present. We do this in northeastern Iowa and in the southern part of the State where the terrain is rougher. It is a little costly. It's very effective and it stops any erosion problems that we have.

These are the materials that we use to seed our right-of-way with. If you look closely there you will see that there is some crown vetch and some alfalfa. There is also some bird's-foot trefoil. These are the predominate crop seedings that we use. They are legumes. They grow good even in the sparse soil and they are very attractive. I am sure you have seen them along our newly constructed highways. It's very pretty and it performs a very useful purpose.

The root systems on these things are real great. Here's a borrow pit area that we have seeded to natural grasses. These are native grasses to this area, and they will grow real good and have a good root system. You see that there is also some native flowers there. From the people that you see parked along this road looking at this area, you can tell that it's very attractive. So although control at times is a little expensive in the first instance, in the long run there are some fringe benefits that are very attractive and also it does stop erosion.

Here's a living snow fence. This can be a nine-bark material. It can be zabel, honeysuckle, or it can be even a permanent hedge. We plant this along our right-of-way line and the windblown material, be it snow or soil, drifts in behind this living snow fence.

In this instance, it's trapped the snow on our right-of-way but off of our roadway. It cut down our snow removal problems and allowed better access to the road year in and year out by the traveling public. We do recommend that the farming industry take a long hard look at this living snow fence. It's not too expensive to install it and does serve a very worthwhile purpose for us and it can for them also.

This is the type of erosion that we get along the roadway due to both wind and water. The only way that we know to stop this at the present time is to either pave this shoulder or do as we quite often do, put crushed stone along there. This allows the water to run off of it without taking a lot of soil matter. It is expensive but it does do a good job.

Here's a borrow pit that has been completed. We have taken all the soil out that you want. Notice the scraper down in there depositing black topsoil back into the area. We do this as a matter of course in our borrow pits.

This allows the borrow pit to be put back into production almost immediately. Again, we put about 8 inches or more of topsoil on top and this becomes very productive land in a short period of time. However, we recognize that we don't have all of the answers for the restoration of borrow pits, so we spent $200,000 and hired Iowa State University to do research for us to tell us what plants we should grow, what crops we should be planting. Should we use commercial fertilizers or manure or whether we should be deep plowing or what the best method of solving these problems are.

This research is about completed at this time and it has been very productive and useful for us. We expected the farmers might use this. More appropriately, the counties will be using it and some of the builders will be using the data that's accumulated from this research. It looks like it's going to be a very productive thing. This is one of the things that we have done on a volunteer basis, those are walnut tree seedlings that you see there. This spring we appealed to our employees within the DOT trying to encourage them to volunteer their labor to plant trees. And sure enough we were very successful. As the other people who have been on here have indicated, people are interested in conservation.

We need to sell this idea more. In this instance, we planted 6,250 trees that cost us 3½ cents apiece and were purchased from the conservation commission. We got 92-percent livability. These have been planted along the interstate at various locations, normally in the river bottom where they do the best.

We also planted about 600 soft maples. We took it upon ourselves to locate some butternuts along the Des Moines River and planted about a peck sack of those at various locations and a peck sack of chariton hickory nuts. To those of you who aren't familiar with those, they are the large hickory nuts that are bigger than the normal walnuts.

We planted those at strategic locations and hope the livability of these are good. A volunteer program of this kind can be successful as it was in this case.

The Iowa Department of Transportation is committed to conserving the Nation's natural resources, and we believe a program of constructing our highways on existing alinement will preserve valuable farmland. We also are reasonably sure that the conservation practices that we have installed, although they are a little expensive, will preserve Iowa's vital resource of topsoil. Thank you.

Senator JEPSEN. That's pretty good timing, George. You had practiced yesterday.

Mr. CALVERT. I had to talk awful fast because I had a little more to say today.

Senator JEPSEN. It was very, very excellent. Very informative. I appreciate it. Do you have any questions, Susan?

Ms. SNYDER-SMITH. The last couple of years, How much of your budget has gone for soil conservation practices or for soil erosion prevention?

Mr. CALVERT. Our erosion work is almost entirely limited to new construction, and it costs us about $20,000 a mile to plant erosion control along a four-lane facility. It costs us between $10,000 and $14,000 a mile for a two-lane facility.

So it's related directly to the amount of new construction or reconstruction that we do where we are tearing up the existing vegetation and doing grading work. I don't have a number for that. But we think this money is well spent. We don't think it's a luxury. We think it's a necessity and we reap real good results from it.

Ms. SNYDER-SMITH. How long has your department been doing that?

Mr. CALVERT. Well, we started major beautification program work in 1972. At that time the Federal Highway Administration came on. We had a President's wife at that time who was very interested in conservation. And Mrs. Johnson said we should have beautification of our highways. We installed that program—it was funded and we have done much more—since then.

Ms. SNYDER-SMITH. Thank you.

Senator JEPSEN. Mac?

Mr. MCCARTHY. No questions.

Mr. CALVERT. Thank you very much.

Senator JEPSEN. Thank you very much, George.

We would introduce at this time, Charles McLaughlin, Soil Conservation District Commissioner. Welcome.

We look forward to hearing your testimony and you may proceed.

STATEMENT OF CHARLES McLAUGHLIN, PRESIDENT, IOWA ASSOCIATION OF SOIL CONSERVATION COMMISSIONERS, BRITT, IOWA

Mr. MCLAUGHLIN. Thank you very much. May I express my appreciation to you Senator Jepsen, and members of your committee for the opportunity to testify here today. I would like, in the interest of time, to stay with the prepared statement, but I would like also to enter some items of information into the record, if I may.

One is Iowa's 5-year resource conservation plan. Copies have been provided for your committee. The other is a publication of the Soil Conservation Society of America on soil conservation policies and assessment which is a report of a meeting which was held in Washington last year. There are three papers in particular that I think are pertinent to what you are doing here. One expounds to a little greater extent than what I intend to say today.

One is by Prof. John Timmons, which gives quite a lot of factual information concerning the economy, the economics of soil conservation. One is by Floyd Heft, who has a position equivalent to our director of Department of Soil Conservation in Iowa.

My name is Charles McLaughlin. I am president of the State association. I am also a council member of the National Association of Conservation Districts.

As a result of Public Law 95-192, the Resource Conservation Act, enacted by the Congress in 1977, and as a fruit of the concern and time given by over 8,000 people in this State, Iowa has a 5-year resource conservation plan.

Iowans overwhelmingly identified soil erosion as the most urgent of their concerns, and I wish to quote a few paragraphs from the summary of this plan:[1]

> Soil erosion is rapidly depleting our soil resource and polluting our waters, 14 million acres of cropland in Iowa is eroding above acceptable rates, making for an average annual rate of 9.9 tons of soil loss for each acre of cropland in the State. An acceptable rate of erosion is 1-5 tons per acres per year, depending on the soil type. Also 400,000 acres of pastureland and 552,000 acres of woodland are eroding above acceptable rates. Soil erosion by wind is severe on 4.3 million acres in Iowa. Some of the most severe soil erosion occurs during the development of urban industrial and subdivision sites.
>
> The rate at which we are applying soil conservation practices to the land is only one-fifth the needed annual rate. Terracing, an expensive structural practice, is being accomplished at 14 percent of the annual needed rate; conservation tillage, a management practice at only 18 percent of the needed annual rate and contouring at 21 percent.
>
> It is the conclusion of this committee that: Soil erosion must be reduced to the allowable soil loss limits before the current productive capability of the soil is permanently impaired. This will require commitment at all levels of government and by the private sector, in a vastly accelerated conservation effort. According to 1978 district resource inventories, to reduce soil losses to allowable levels, an estimated $198,144,000 application cost and $12,800,000 personnel cost will be required annually.
>
> There are several limiting factors affecting the application rate of erosion control practices. They are: (1) cost to install practices; (2) education and technical assistance needed to motivate landusers to plan, design and lay out practices; (3) a short construction season; (4) availability of contractors and/or equipment due to a short construction season and (5) acceptability of practices to private landusers in some areas.
>
> There are several alternative programs that can be brought to bear on the soil erosion problem. The RCA committee believes that it will take a combination of alternatives to reduce soil loses.

Last week, I heard Charles Margolf, director of Western Coal Operations for the W. R. Grace Co., discuss the energy development perspective. Although highly critical of the arbitrary manner in which regulations are enforced by some inspectors, he fully supported the Mine Reclamation Act, saying that as long as there is a law that the land must be restored, by all miners, the cost can be added to the price of coal, and the public pays for reclamation as part of the cost of the fuel.

In contrast, agriculture in the United States is composed of a motley crew of individual entrepreneurs who pay what is asked for supplies and equipment, gamble on the weather and on Government policy, and take what is offered for their products. Although we feel that this system has irreplaceable values in our society, it does not permit adding the cost of soil conservation to the prices of food, fiber, and fuel.

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[1] See p. 229 for the "Iowa 5 Year Resource Conservation Plan."

Soil erosion has been permitted, sometimes inadvertently, by earlier generations, and the benefits of conservation will accrue to future generations. The products of the land are used by all who eat or use energy. It is, therefore, indisputable logic that the public should bear a part of the investment in protecting the soil resource base.

Furthermore, a very large part of the products of Iowa soil are shipped out of the State as a facet of national policy, at a price which does not include the cost of conservation. It is only appropriate that some Federal funds be used to protect this resource.

Iowa is leading the Nation in legislation and in funding to save the soil. These efforts are supported by State and county governments, by the public, by the press, and by those directly responsible for the programs.

The Federal Government, on the other hand, refuses to accept its due portion of responsibility for this resource. Not only does the Federal Government neglect to adequately fund new programs to provide the needed acceleration, but we find a continual cutback in present programs, such as the technical service proven over the years to be effective.

The contrary should be the case. The Federal branch should be offering matching funds in order to encourage State and local governments to take the initiative.

When I ask Members of Congress or of the administration why soil conservation promises must be reduced, I am told that there are more pressing needs . . . military, social, economic.

I submit that there is no resource more fundamental to our defense, our social well-being, or our economic stability than our soil.

Those who say we cannot afford soil conservation delude themselves by a bookkeeping jargon: Conservation is not a cost to be entered in the daily ledger; it is an investment, a long-range capital appreciation. I suggest a simple arithmetic calculation: In parallel columns, add the cost of conservation, and the costs of not doing it.

Last week, I attended the annual meeting of the Soil Conservation Society of America, where we pondered the theme. Economics, Ethics and Ecology: Roots of Productive Conservation. The facts presented indicate that our present rate of resource consumption portends serious restraints in the not-too-distant future. Fortunately, the outlook was not wholly pessimistic. Other countries have a standard of living comparable to ours, while consuming a fraction of the resources per person. The question remains, "Can we learn to conserve? Can we change our habits of waste in time?" It seemed to be the consensus that we must be headed in a new direction within no more than 5 years, or our options will have been forfeited and our potential lost.

A tribal chieftain of Nigeria once stated a profound truth. He said, "I conceive that land belongs to a vast family—of which many are dead, few are living, and countless numbers are unborn." Archeologists tell us that the great civilizations of the past, the buried cities with their dazzling artifacts of gold and bronze, did not in most instances succumb to war or invasion. Once-proud peoples have vanished from the storyline of history when their soil became eroded or depleted and their aquifers ran dry. I trust that our people can summon the self-discipline to manage our heritage of soil and water prudently, so that our posterity may escape the pitiable fate of the heedless. I thank you.

Senator **Jepsen**. I compliment you on a very interesting and informative testimony. You are your own writer?

Mr. **McLaughlin**. I am.

Senator **Jepsen**. I want to talk to you later on. Very well done. I think that last statement—the instance of the tribal chief in Nigeria and followup on the archeologists, tells us the great civilizations in the past got into big trouble when they depleted their land and soil. That's a fact. I don't really think that story is told often enough as a part of the educational program for soil conservation.

It's very interesting and certainly to the point. But we don't need to go back to ancient civilization. We can look at some of our other continents where people have moved and have ravaged the land. And when it's all stripped and empty, then they just move on. That's still going on in some places.

Mr. **McLaughlin**. We can look at the east coast of our own country, the cotton economy that survived there before the Civil War.

Senator **Jepsen**. Do you feel that conservation practices should be voluntary or mandatory?

Mr. **McLaughlin**. I feel that there may come a time where there should be some mandatory activity, but we have not begun to explore the extent of voluntary compliance at this point due to the lack of funds involved. I do, however, feel that Iowa is on the right track in making a provision in their law that provides for the protection of the interests of other people when there is someone who is heedless, who is careless or for some other reason such as an absentee landowner does not protect their land so that it is not a hazard to the ones around them or in the democratic society where the majority of the people in the watershed, for example, wish to go into a program which will protect the whole watershed and someone in a key position in that watershed is obstinate and does not wish to go along.

I don't feel that the majority should be damaged because of the obstinance of the one individual. The law in Iowa has worked. Eighty-seven percent of the complaints filed have been settled by just getting the people together.

We do not have any measure of how effective this law has been to encourage other people to proceed to conserve on their own basis before a complaint is necessary.

And we think—personally I think that that's had quite a bit of effect from my contacts with landowners.

Senator **Jepsen**. All right. Very interesting. Susan?

Ms. **Snyder-Smith**. No, thank you.

Senator **Jepsen**. Mac?

Mr. **McCarthy**. No questions, Senator.

Senator **Jepsen**. Thank you very much.

Mr. **McLaughlin**. You're welcome.

Senator **Jepsen**. Very, very interesting. Now I will introduce Charles Ehm, vice president, Iowa State Savings Bank, Creston. Financing has been a thread woven in the fabric of testimony of yesterday and today. It is one of the key things in soil conservation, problems in crop financing, problems with the young farmers. I am looking forward to hearing your testimony and you may proceed. Welcome.

STATEMENT OF CHARLES EHM, VICE PRESIDENT, IOWA STATE SAVINGS BANK, CRESTON, IOWA

Mr. EHM. Thank you. It's an honor to be here, Senator Jepsen. I will read my script so you don't have to wear your fingers out.

I wish to testify on a little different approach to curbing soil erosion especially in southern Iowa and I'd like to call it a grass-based program. Through the many years most Federal programs through the ASCS offices have always been administered on a corn- or grain-based program. The farmer that had the biggest corn base was always rewarded; whether it was feed grain programs or disaster programs. A farmer wasn't awarded too many incentives if he followed a 5-year rotation or a good improved grass program.

Since I live in Union County, let's use it as an example. According to our soil survey report our soils have a wide range of slope, degree of slope and degree of erosion. Only 16 percent of our land is near level, 52 percent is gently sloping to moderately sloping, 32 percent is moderately sloping to steep. A majority of our land does not have much topsoil. As the land is cultivated the rate at which water moves into the soil decreases and surface runoff increases. This increased runoff results in accelerated erosion which in effect reduces organic matter and lowers fertility. We all know the results—poor soil, poor returns, less net income. Seventy-five percent of our land should be in grassland.

In Union County in the last 5 years we received in cost share funds through ACP (agricultural conservation program—Federal funds) and through State cost share funds through SCS a total of $794,637. That's right at $800,000, which doesn't include the disaster payments through ASCS disaster loans through SA and FHA which a good portion was based on grain production.

Let's design a program that uses the number of acres of improved pasture and hay on a given farm as a basis and reward that farmer with incentives to keep it in improved grasses and legumes. The money spent previously have not been spent in vain. We have excellent drop-inlet terraces, grassways, ponds and other practices but I believe once we have a field terraced with drop-inlet terraces it usually never gets back to grass. Drop-inlet terraces are expensive and we can't afford to cost share 75 percent of Union County land with them. But we can afford to cost share programs that will put our steeper slopes into improved grasslands. Let's establish programs that call for establishing and fertilizing those grasslands, maintaining them in a productive manner and not overgrazing. Cow herds used to be numerous in Union County but each year more corn and beans replace the cow herds. Why, because of beef prices. Let's help them when the return on beef is low so that the land doesn't go to the plow. I'm talking about the marginal land. This last year alone has cost us far more in the loss of our topsoil. I know this is not a program for all of Iowa but it could be a program for southern Iowa and many of the more hillier counties of Iowa and other States.

Then following next in priority would be a program to encourage minimum tillage and several have mentioned this before, realizing that good improved pasture and hay does not last forever. They have to be either interseeded or put in a cultivated crop for 1 year and reseeded. Let's do it by minimum tillage. We have a start on this program now, but more has to be done. We have to get the equipment industry and the chemical industry (especially in weed control) interested in doing a lot of research in this because we have some problems. The major equipment companies do not have available minimum tillage equipment. The equipment industry must be encouraged to do their part in making available equipment to purchase, especially minimum tillage planters. The chemical industry needs to find ways to overcome the high organic matter on the surface for good weed control. Farmers get discouraged easy when weeds can't be controlled in minimum tillage operations. I know a minimum tillage farmer won't need as much tillage equipment from the equipment industry but at the rate we are losing topsoil, in the future we may not need any equipment. Even on the near level and gently sloping land minimum tillage saves soil and moisture.

I'm an agricultural banker. I'm proud of my customers and I'm real proud when my farmer customers make a profit. Any time we can cut input cost by less equipment cost, less fuel, or energy cost and less acres cultivated on a yearly basis we should be able to maintain or increase profits plus conserve our soil and water.

New programs such as a grass based program and minimum tillage won't necessarily cost less. In fact, it will cost more than we've been spending in recent years on cost share programs in conservation. Today's cost to properly seed down these slopes, first cost, is about as much as putting in a corn crop. Cost for such a program could be a package which is cost shared by county, State and Federal funds. State and Federal cost sharing could be used in establishing the seeding the first year. After the first year a property tax credit could be given plus a State and Federal payment for each year that slope stays in improved grasses and legumes.

I would highly recommend a study be made in implementing this type of concept in conserving our soil. We can talk and educate all we want to get farmers to seed down land and if there are no profitable rewards it won't get done. I guess an alternate could be that we could make it mandatory. A better plan is to aim our programs to seeding down our slopes and using minimum tillage on cultivated land. Cost share to farmers that practice this and all other Federal and State programs whether it be a disaster or what have you should be based on whether that farmer follows the conservation program. Thank you very much.

Senator **Jepsen**. Very interesting and well presented. Do you feel that conservation practices should be voluntary or mandatory?

Mr. **Ehm**. Very much voluntary.

Senator **Jepsen**. It's interesting that after a day and nearly two-thirds of the testimony, we are starting to have things reiterated and reinforced. And this is the third time now someone has talked about the type of equipment that we should have—that our major equipment farm implement manufacturers should be looking at and thinking about. And that's going to take some coordination.

Mr. **Ehm.** I would like to mention one thing. Yesterday I did find out that John Deere does have what they call a conservation planter. And he sold, oh, two or three of them this year but it isn't well known. I mean, here's a tool that looks like what Allis-Chalmers had done many years ago but really it hasn't gotten good acceptance.

But we need education on what is available and then promote it so that the farmers are using it.

Senator **Jepsen.** You will have 100 percent support from the farmers when you say that you are pleased when they make a profit.

Mr. **Ehm.** You bet.

Senator **Jepsen.** They can make a profit by doing a better job of managing which can bring into play soil conservation practices and accomplish everybody's goal.

Mr. **Ehm.** You bet.

Senator **Jepsen.** Susan?

Ms. **Snyder-Smith.** No, thank you.

Senator **Jepsen.** Mac?

Mr. **McCarthy.** No questions.

Senator **Jepsen.** Thank you. Thank you very much.

Mr. **Ehm.** Thank you.

Senator **Jepsen.** Very good testimony. At this time I would introduce C. W. McManamy, Pottawattamie County Soil Commissioner. Do you live in east or west Pottawattamie?

Mr. **McManamy.** West Pott.

Senator **Jepsen.** West? Council Bluffs area?

Mr. **McManamy.** Yes.

Senator **Jepsen.** Welcome. Look forward to hearing you.

STATEMENT OF C. W. McMANAMY, COMMISSIONER, WEST POTTAWATTAMIE COUNTY SOIL CONSERVATION DISTRICT, COUNCIL BLUFFS, IOWA

Mr. **McManamy.** Thank you, Senator. I am most appreciative of the opportunity to make this appearance. If I should appear just a little uncertain, it is probably because I am traditionally an after dinner speaker and I am a little on foreign turf at this time today, but nevertheless—I am C. W. "Mac" McManamy, commissioner in the West Pottawattamie Soil Conservation District. I own and live on an 80-acre farm near Council Bluffs. A farm that is fully terraced I might add. I am a retired farm journalist but still do some writing as a contributing editor for the Council Bluffs Nonpareil.

There will be many here today more conversant with the statistics, more knowledgeable in matters of technical expertise, and more accomplished in the field of theory than I.

I doubt though that there will be many present who have enjoyed the opportunity to be on the scene for the birth of the district conservation program in this State in Montgomery County in 1940. And perhaps not many who have had the chance to observe and in some small way contribute to the growth of that program as it has recorded its marked accomplishments. Only modesty, by the way, prevents me from mentioning that some years ago I was selected as the Iowa Watershed Man of the Year.

Senator JEPSEN. I am glad to hear that and appreciate it. It's very interesting. And for the record I might say, and I should have said earlier, any special thing or appointment or experience like that does give additional reinforcement and background for the hearing record. So please, don't be too modest. Thank you very much.

Mr. MCMANAMY. May I beg a moment's time to pay tribute to those men who served at once as father and midwife to this State's conservation programs. Those pioneers, armed only with a pressing sense of need, a deep conviction, and an unknown, untried, unproven idea singlehandedly "sold" the most revolutionary development American agriculture has ever experienced.

As you listen today to reports of the ravages of erosion, the enormity of the job that needs doing, the crying needs that must be met may I respectfully make a suggestion.

Do not overlook or underestimate in any degree the tremendous accomplishments in soil and water conservation put in place the past 40 years in Iowa by those laboring in the conservation vineyard. In Iowa we have a broad, sound foundation on which to build.

So much for the past. What of tomorrow? I have neither the knowledge or the time to attempt any detailed recital of the needs that must and I repeat must be met. These needs are not only a multitude in number but vary ever so widely in character. In consequence no single program, no narrow based approach, no one-size-fits-all formula can or will supply the answers.

May I offer then just a few general observations with respect to the needs of the conservation movement, as I see them.

To understand needs, perhaps we should very briefly look at the basic cause why conservation has tended to languish somewhat in recent years. One word tells most of it: Economics—$1,000, $1,500, $2,000 an acre land; $100,000, $150,000, $200,000 investment in equipment, machinery, and overhead; $100, $125 or maybe more cash rent. The general acceptance by many including our own USDA, American farmers very well could and perhaps should feed the world and finally the knowledge that ag exports are the backbone of this country's exchange economy.

All of these combined or individually encourage fence-to-fence farming. They do more than encourage, they mandate it. And so today's problem of erosion has emerged.

By the way of needs, the soil conservation movement needs to be left in its present structure. I have already noted the substantial achievements today. Those are due in a large measure to the grassroots nature of the conservation district and its locally elected commissioner.

This body provided with a major measure of economy has proven to be a powerful vehicle in getting conservation on the land. The conservation effort must have a much greater measure of public recognition.

Citizens throughout this Nation appreciate the energy problem, the inflation problem, the unemployment problem, the foreign relations problem, the tax problem, and so on through a long list. Yet I suggest that not 1 in 10 citizens today have even the foggiest notion concerning the all important matter of the conservation of soil and water of this Nation.

There is a need for expanded accelerated education. Certainly, if we ever hope to achieve a broad public understanding, we must first have education; informal education that can best be provided always in the early days of the movement on a man-to-man basis.

Those who have spoken supportively to those who have not, formal education provided through expanded emphasis in our schools. Above all, though, education by whatever means. And I would like to digress just a second to suggest again a matter that is so personal in nature as the conservation measures applied on a man's farm can in most cases be best approached as I have suggested on a man-to-man basis as they were initially approached around ever so many kitchen tables in southwest Iowa as ever so many pioneers called several neighbors in and sat down and over a cup of coffee came to grips with the problem of soil conservation.

It is a starting place in any educational program of this kind. The conservation effort needs more active watershed projects. What the individual farmer-cooperator can do well alone, a group of farmer-cooperators working toward a common goal can do even better, more quickly and with more effective results.

The watershed program has been one of the most useful tools ever designed in the achievement of conservation. Inevitably, in examining needs, we come to the matter of money. Money may be the root of all evil, but it is also the fuel of progress.

I need hardly point out soil-water conservation is at once in both the public and private interest. It is interesting to note then that the accomplishments then today have come about as the result of spectacular cooperation between Federal, State and local government and private citizens. The cornerstone of this arrangement is best known as cost share.

And suggesting that one of the biggest roadblocks to accelerated conservation is money or more accurately lack of money, I am in no way suggesting that the total solution is a massive program of throwing Government dollars at the problem. It should be kept in mind that up until now, every Government dollar has been matched by a farm dollar. That is good.

It should also be kept in mind that through the years Government people and agencies have worked hand in hand with volunteer citizens. That has also been good. Finally, then it is abundantly clear that the needs of conservation are indeed many and great. May I respectfully suggest that they can and will be met; met by retaining the vehicle which has so successfully carried the movement so far, so well: The district and its commissioners; met by the continued cooperation of all those forces so vitally concerned: met for the good of this Nation and its people, present and future, and for the good of the world. And I thank you for this opportunity.

Senator JEPSEN. I don't think I have to ask you, you do your own writing, don't you?

Mr. MCMANAMY. Yes.

Senator JEPSEN. Very excellent and the delivery is very excellent also. I believe you have answered this question, but I will ask it. Do you feel that conservation practices should be voluntary or mandatory?

Mr. MCMANAMY. I am glad you asked me. I am, have been traditionally and still am 100 percent in favor of voluntary conservation.

However, I have growing doubts, Senator, that we have the time left to us to proceed successfully to a successful conclusion at the relatively leisurely pace we are now operating on.

So I think there is need for acceleration. However, when you mention the word mandated conservation, I have a spectre that has haunted me for some time ever since this has come into some common usage. And that spectre is that government-mandated conservation must be in major part paid for by government funds. Government-mandated conservation paid for by government funds will in all likelihood have to be largely installed by government forces.

Government-mandated conservation paid for and installed by government on the individual farm becomes a government program in which the individual farmer may or may not choose to participate to any considerable degree. And so I see in addition to all of the other mandates, I see down the road not too far in the event of mandated conservation the time when early in the pursuit of properly operating farms on which the mandated conservation has been applied, the government will also say to that farmer:

> You must now proceed along certain prescribed lines in the cropping practices, in the grassing practices, in the livestock in which you may use on the acres that we have now made major public investments in terms of conservation.

And I guess what I am saying is at that point in time I wake up glad that I am not looking at a government agriculture in this country.

Senator JEPSEN. Very well said, Susan?

Ms. SNYDER-SMITH. No, thank you.

Senator JEPSEN. Mac?

Mr. MCCARTHY. No questions, Senator. Thank you.

Senator JEPSEN. Thank you very much. Appreciate it.

Mr. MCMANAMY. Thank you.

Senator JEPSEN. I now introduce State Senator, Cal Hultman, Iowa Senate Majority Leader. Welcome Senator Hultman, and you may proceed. We are looking forward to hearing you.

HON. CALVIN HULTMAN, IOWA STATE SENATOR, RED OAK, IOWA

Senator HULTMAN. Thank you, Senator. It's a pleasure to be here today.

My name is Calvin O. Hultman. I reside at 701 Joy Street, Red Oak, Iowa. I have been a member of the Iowa State Senate since 1973, representing the 49th Senatorial District. For the past 2 years I have been the majority leader. I welcome this opportunity to say a few words before Senator Jepsen and the Senate Agriculture Subcommittee on Environment, Soil Conservation, and Forestry.

As a resident of one of the most rural districts in Iowa and as a leader of State government, I am acutely aware of the seriousness of the soil erosion problem in Iowa. Unless we take measures to reverse present trends, we will lose our ability to support the unique food producing factory we call the land.

To illustrate how dependent we in Iowa are upon the soil, 8 of 10 jobs are directly or indirectly related to the State's ability to produce agricultural products. Iowa leads the Nation in total red meat and grain production. Almost 30 percent of Iowa's agricultural production enters the international trade channel, a key factor in maintaining a favorable balance of trade.

The soil is the backbone of Iowa's agricultural economy. This resource is being jeopardized. If the soil is squandered, we take the risk of inviting a food shortage—the impact of which is unthinkable to all responsible people.

We have the sources that can give us the soil conservation technology we need right here in Iowa. In Ames, we have one of the Nation's leading research and educational institutions, Iowa State University. Iowa State is uniquely situated to stay on top of the particular soil erosion problems facing the Iowa farmer. It should be relied upon heavily to provide the kind of technology developed by a local source to be applied to local needs.

The Federal Government, through the Department of Agriculture and its Soil Conservation Service and the Agricultural Stabilization Conservation Service, has the technological expertise in the area of soil conservation. It is important, however, that the use of this expertise be controlled by the State and local governments.

We have had examples of what can happen when the Federal Government takes on the job of "solving a problem." The controversy over nitrites is typical of the arrogance of misinformed activists pushing a preconceived point of view based upon one study. The decision to implement across-the-board-funding cuts for agricultural mechanization is another instance where the Federal Government has failed to take into consideration the needs of the various farm areas and their individual agricultural operations.

We must apply technology and management practices to the problems of soil erosion. Depending upon the situation in a particular county, we can set acceptable soil erosion losses; we can recommend certain cropping management practices; and advice can be provided for various soil conservation construction projects. Through the use of manuals, consulting agricultural engineers, and extension services, sound soil conservation programs can be established.

Finally we must facilitate a melding of the general philosophy and application of technology as stated above. Iowans understand the value of maintaining the soil resource and they have supported local programs to that end. I feel safe in saying that Iowa leads the Nation in soil conservation efforts at the State level and could probably serve as a model for other States soil conservation efforts.

Iowa was the first State in the Nation to establish a soil loss limits law. In 1973, I supported the Senate File 574 which made Iowa the first State in the Nation to established a cost-share program to assist farmers in constructing soil-saving practices such as terraces, waterways, et cetera. In 1979, I supported what became the first-in-the-Nation soil conservation management incentive program known as Iowa till.

This year, I supported House File 2561 and Senate File 2357 which respectively, expands and strengthens the State soil conservation program, by aiming to keep erosion down to a nondepleting level by the year 2000 and gives each of Iowa's six conservation districts the option of an elective board within each of the districts.

I also supported Senate Concurrent Resolution 113 in which Iow became the first State to announce its policy on soil conservation a part of a 20-year master plan called "Iowa Soil 2000." New concepts i soil conservation planning assistance, conservation education, and financial incentives are needed to implement this master plan.

One of the single most effective steps Congress can take to assist in the conservation effort is to provide grants to individual States to allow them to develop and control their own programs.

Soil conservation is an issue that can best be dealt with, and should be dealt with, on the local level. And, if we don't do something, one day we will awaken to find all of Iowa's topsoil muddying the waters of the Gulf of Mexico.

The land is a unique factory for the production of food. Iowans do appreciate the importance of soil conservation. They do know that it is not uneconomical to apply soil conservation measures.

By putting the administration of soil conservation programs closer to the problem, program flexibility and service is achieved and bureaucracy in administration is reduced. Iowans who know more about their problems than do administrators in Washington, D.C. Iowans who govern their own program will keep in mind economic practicalities.

Iowa's soil conservation districts in which locally elected soil district commissioners approve and authorize the programs, manage clerical and technical personnel, administer cost-share funds, and develop programs on an annual and long-range basis, with technical services provided by the Iowa Department of Soil Conservation and the USDA's SCS and ASCS, should be continued.

This system provides the best opportunity for trained personnel to work directly with landowners and operators in developing conservation plans and management practices. These people are more aware of soil and water management needs than any Federal agency can be. Farmers are more likely as was stated earlier to cooperate with a local conservation district than with a federally sponsored program. I believe farmers should have a soil conservation plan for their farms. Every plan should be developed with alternatives which allow farmers to select soil management practices that are consistent with their farming operations.

Consideration should be given to the use of various incentives to encourage farmer participation in soil conservation. Among these are an income tax credit on Federal and State taxes equal to a percentage of the cost of installing permanent soil erosion control practices; low-cost loans to help finance farmer cost-sharing efforts; and payments for the loss of crop income from land set aside for construction of conservation practices during the growing season.

Stewardship of the soil is a fundamental principle of the Iowa farmer. The Iowa farmer is dedicated, as a manager of the soil resource, to conservation. I believe that conservation results will be better through a voluntary approach, coupled with incentives, rather than mandatory directives.

Emphasis on understanding erosion and soil conservation measures needs to be intensified by the Extension Service of Iowa State University, the soil conservation districts, vocational agricultural programs, and agri-industry and anybody else it can.

The Iowa farmer does take into consideration the future generations which will produce food and earn a livelihood from farming the land. The Iowa farmer is committed to preventing, and knows best how to prevent, the erosion of this sacred trust. Thank you very much, Senator.

Senator **Jepsen**. Very excellent. I congratulate you on the presentation and the content. On page 4 you indicate what has been in one way or another reiterated several times in the last couple of days, in the general area of again saying that you can lead a horse to water but you can't make him drink.

The likelihood of him doing this is enhanced considerably when, as you indicated here, that every farmer should have a soil conservation plan for his farm when he can see it and identify it as it specifically applies to him, the chances of that farmer taking action are much greater.

That's one of the things that I am pleased to see being worked on in Iowa. And Iowa has a 1985 goal, and a year 2000 goal. Ultimately, one time or another, every acre in Iowa will have a soil conservation plan.

I am gathering from testimony given that we probably will look at this real hard to see if this could be expedited because once a landowner can identify a soil conservation plan as it applies to him specifically and his land, the likelihood of him taking action is much greater. That's what I have gained among other things from listening in the past day and a half.

Senator **Hultman**. I feel strongly that at least part of the plan and part of the program is part of it, that they will practice it much better and much easier.

Senator **Jepsen**. And from your testimony I don't need to ask you my standard question of whether you feel that the practicing of soil conservation should be voluntary or mandatory.

Senator **Hultman**. Voluntary.

Senator **Jepsen**. Voluntary. Susan?

Ms. **Snyder-Smith**. No questions. Thank you.

Senator **Jepsen**. Mac?

Mr. **McCarthy**. None, Senator. Thank you very much.

Senator **Jepsen**. Thank you very, very much.

Senator **Hultman**. Thank you very much.

Senator **Jepsen**. I will introduce Dick Myers, state director of Farmers Home Administration. Welcome. Look forward to hearing your testimony.

We have been neighbors, so to speak, over the years over there in Iowa City, Coralville, isn't that right?

Mr. **Myers**. Yes, sir, that's correct.

Senator **Jepsen**. Davenport?

STATEMENT OF DICK MYERS, STATE DIRECTOR, FARMERS HOME ADMINISTRATION, DES MOINES, IOWA

Mr. **Myers**. Thank you, Senator. I appreciate the opportunity to be here today. I wanted to talk about some things that perhaps would not be redundant. I realize that you are going to hear a lot of things about soil conservation and so forth in terms of what the Soil Conservation Service is doing.

I want to talk a little bit about what Farmers Home Administration is doing and hopefully we will approach it from a little different angle as well as some of our land use policies that we are attempting to deal with. I have brought more material than I intend to read in the interest in time, but nevertheless, there are a few comments that I would like to make.

Senator **Jepsen**. Is it your desire that the material be made a matter of record?

Mr. **Myers**. Yes, sir.[1]

Senator **Jepsen**. It will be.

Mr. **Myers**. I have also brought along a copy, I guess because I didn't want to carry six of them, I only brought one. But if you would like copies of our State management plan for 1981, it has not been drafted and a lot of the material that I am talking about is contained in this plan and gives a better view of it.

Senator **Jepsen**. I appreciate it.

Mr. **Myers**. Yes, sir.

The Farmers Home Administration makes soil and water loans and provides technical management assistance to owners or operators of farms and ranches for developing, conserving, and making proper use of their land and water resources.

Loan funds may be used to drill wells and otherwise improve water supply systems for irrigation, home use, and livestock; purchase pumps, sprinkler systems, and other irrigation equipment; acquire a water supply or water right; purchase water stock or membership in an incorporated water user's association; construct and repair ponds and tanks, ditches, and canals for irrigation; dig ditches and install tile to drain farmland; develop ponds and water control structures for the production of fish under controlled conditions.

These loans may also be used to level land; carry out basic land treatment practices including liming, fertilizing, and seeding; subsoil or sod land; establish permanent pastures and farm forests; establish approved forestry practices on a farm such as pest control, thinning, and fire protection; for certain purposes to meet requirements for agricultural, animal, or poultry waste pollution abatement and control facilities.

Funds may also be used to build dikes, terraces, waterways, and other erosion control structures.

In addition, loan funds may be used to pay expenses incident to obtaining plans and making the loan, such as legal, engineering, and other technical services.

As of August 6, 1980, Iowa FmHA has obligated 54 soil and water loans for a total of $641,920. Our target allocation of loans for the year is 60 and it appears that this modest goal will be reached. And I emphasize modest. Also, many loans that have soil and water characteristics have been written under our farm ownership program.

And for your information, the interest on soil and water loans is currently 11 percent. The reason for this is that the borrower may have other credit needs and it is more efficient to combine loans into one program.

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[1] See p. 244 for the prepared statement and additional submitted material of Mr. Myers.

In my short tenure as FmHA State director, the farm economy has been affected by serious economic problems. This has caused county supervisors an increased workload because more farmers are eligible for the program.

Loan funds have been stretched to the limit as well. Therefore, less time has been spent on soil and water loans than in the past. This coming fiscal year FmHA will place a greater emphasis on soil and water loans in the State and I quote from our 1981 State management plan.

A basic objective of all types of loans is to encourage and facilitate the conservation, development and proper use of land and water resources by providing adequate financing. Therefore, FmHA will encourage applicants and borrowers to obtain technical assistance from SCS in meeting the land and water conservation and development needs. In an effort to leverage the dollars obligated and as a part of providing financial assistance to individuals, FmHA will encourage its applicants to apply for and obtain cost-sharing funds from ASCS whenever available. FmHA, SCS, and ASCS county and district personnel will meet with each other frequently enough during the year to assure themselves that they are familiar with current programs in each agency.

In my judgment, soil conservation and land use problems are critical to the survival of agriculture in this State and hopefully funding priorities will reflect these needs.

I will further comment on our land use policy just briefly. I don't intend to read this entire document here, but just the first page or two.

A State land use policy will be formulated under the leadership of the community programs section of our agency with the supervision of the State director. This policy will be developed in accordance with the suggestions made in the administrator's draft memorandum entitled FmHA 1980 Land Use Policy, which is an exhibit to this testimony. The agency policy directive will be the prevention of the irreversible conversion of prime agricultural land.

Skip down through the section involved here.

Iowa Farmers Home Administration recognizes that we must maintain economically viable rural areas, composed of farms and rural towns, and it goes with protecting and enhancing the environmental resources upon which these areas are dependent. It also recognizes that unless carefully reviewed, some proposals designed to serve rural communities can create adverse development pressures on land and environmental resources that are essential to farm economics.

An example of this might be the extension of sewer and water systems beyond a community's existing corporate limits, causing development of commercial, residential and industrial development without consideration of use of prime farmland for such expansion. While at the same time there may be existing sites for the same purpose within the corporate limits.

To avoid wasteful uses of these resources which produce undesirable results, rural community needs will not be approved unless the following conditions are considered.

The project is planned and sited in a manner consistent with Secretary's Memorandum No. 1827.

There is clear evidence of alternatives that have been carefully considered of land use.

Where comprehensive and enforcible plans have been filed and passed, these will be used as a guide for growth to protect those important farmlands, flood plains, wetlands and forest lands.

A project will encourage long term economically viable public growth through development patterns such as compact community development; moderate to some high residential densities which might be appropriate to the area; development contiguous with existing community patterns; renovation and rehabilitation of existing structures, systems and neighborhoods whenever feasibly possible.

We will be mindful of protection to endangered species; habitats; protection of scenic areas; protection of historic and cultural properties and how it relates with other interagency initiatives.

All Farmers Home Administration personnel will review with applicants as to the intent of land use policies as implemented by this agency.

Iowa has a number of existing regional rural water systems financed by Farmers Home, furnishing water to farms, rural residents and small communities.

These systems are located in areas of the State which have had historically either unreliable sources or quality of water or both. We believe these systems have increased living standards and the economic base of rural Iowa. It is not our intent to approve for construction design which would not provide for the orderly development patterns as outlined above but to approve designs consistent with FmHA land use or local zoning requirements as it relates to patterns of growth.

As an integral part of this land use policy, all rural water systems applicants will be encouraged to seek resolution of land use problems within the applicants proposed area. The agency will encourage land use planning and county zoning plans whenever a rural water system organization submits a preapplication. This is a suggestion and not a requirement because the agency land use plans have yet to be written and it is anticipated that the U.S. Department of Agriculture will be preparing a permanent land use policy in the near future. And I should also mention that the State will have some voice in what land use should ought to be.

The statement as outlined here is an interim land use plan. It will be refined in the future to bring it in line with the development SCAC land use statement and revisements of the Secretary's memorandum.

A completed FmHA land use policy statement will be formulated during the 1981 fiscal year. The community programs section of our agency will be the lead section for the purpose of writing the plan. The State director will appoint the persons necessary to write for all levels. A representative of community programs will be designated the chairman.

While formulating this plan, we will consult and educate those persons outside our agency as to the purpose of the plan for the State. That concludes my reading as far as testimony is concerned, Senator. I also have included those exhibits that I referred to.

Senator JEPSEN. They will be made a matter of record. I thank you very much. Do you feel that soil conservation practices should be voluntary or mandatory?

Mr. MYERS. I believe they should be voluntary with cost sharing. The burden of these loans and the other economic circumstances that are facing the farmers become so great that I feel that there is a role for the part of agriculture to play as well as the farmer's own economic base. But I do believe it should be voluntary.

Senator JEPSEN. In listening, which I was doing very closely, and if I understand correctly, it seems to me as a director you are moving now in a direction to make loans contingent upon some mandatory requirements. That is the first step, to an old conservative like me, for the Government coming in the back door and starting to make mandatory some things and dictating land-use policy which really, on a local basis, hasn't been developed.

Mr. MYERS. What we are saying is that we don't want to write land-use policy for any local area under any circumstances. I don't think we have any right to do that or any role involved. But we would encourage them to do that. What we are really looking for, I think, is for the State of Iowa to write its own land-use directives or policy. I don't think—it's my philosophy, Senator, that the U.S. Government really should not write a land-use policy for the State of Iowa.

Senator JEPSEN. I am glad to hear you say that. That's the way I feel, too. Susan?

Ms. SNYDER-SMITH. You said that you had loans for soil and water at about $600,000 this year. What percentage is that of your whole budget?

Mr. MYERS. It's a very, very small percentage. For example, in our farm ownership category we loaned—we will obligate about $37 million this year. In our operating loan catagory we will obligate another $38 million. In the emergency loan program the total isn't in yet, but it will approach approximately $98 million. So it's a very, very small percentage.

I think one of the things—one of the reasons why we haven't been emphasizing it is the farmers have been coming to us for so many economic needs just for survival, it's all we can do to keep them in business. And they have been really in my judgment neglecting these things because of other pressures.

Ms. SNYDER-SMITH. Thank you.

Senator JEPSEN. What basic criteria or qualifications do you require or how do you look at a young new farmer who has real credit needs?

Mr. MYERS. Well, I should emphasize that the overwhelming criteria is a viable economic plan for success. Our loans are well secured. Our delinquency rate, I might add, is quite low. I believe it's the lowest in the country in terms of loans that fail.

However, we are realizing that things are going to be getting a little bit worse this year. I wouldn't be a bit surprised. We encourage young farmers, but we want to make sure the loan pays out.

I think it's fair to say that we don't have the resources to deal with the need under any circumstances. Farmers Home Administration recently within the last 2 years has been orienting its resources on need rather than demand. And that is to say that we are emphasizing the credit elsewhere test.

The person must be unable to receive a credit from other sources I think this is a rule and perhaps it's been abused in the past. It is my philosophy that we should not compete with private lending sources, that most of these loans belong—that a lot of these loans belong in the private sector.

I also note just to give you a figure that in the collateral loan business for shells; that is machinery and that sort of thing that Farmers Home Administration nationwide amount of loans, that we made about 3 percent of the total loans nationwide 5 years ago. We are now making 13 percent of those loans. That bothers me.

And I think that it is fair to say that many lending institutions are sending us a lot of problems that they ordinarily would not ask us to send in better times. I do not believe that the Farmers Home Administration should be bailing out bad lending decisions in the past, although it's fair to say we will take more chances with—our job is to take chances. Our job is to start new farmers in business, than in the private sector. But our job also is to counsel that individual and to get them into the private sector as soon as possible.

Senator JEPSEN. Thank you. Mac?

Mr. MCCARTHY. Just a couple of things. Well, with respect to what you just said, we have had two or three major bills come through Congress in which graduation requirements have been reemphasized. That may put you in a bind one way or another. You may try to carry forth with what you want to do and at the same time have a regulated mandate requiring that every 2 or 3 years you review that person's situation and move them out.

If possible, that may be some help down the line. If general economic conditions improve, perhaps. You are making the soil conservation loans that you can make across all of the programs; that is, operating economic emergency, and emergency loans, and then you mentioned farmer ownership as well. Is that essentially the case?

Mr. MYERS. No. Well, the only reason we would go into another—we don't have a soil and water allocation. There is a national allocation but not a State allocation.

Mr. MCCARTHY. I know that.

Mr. MYERS. You know that, OK. Frankly, we will write a soil and water loan as part of another loan to keep from writing two loans. Let's say the farmer comes in and he has a farm ownership need or an OL need. We may include some soil and water money in there as a result of what's necessary for the farm to the request of the farmer and so forth.

And we may just write one loan but in fact part of it is a soil and water loan. We don't have that documented as such. I am saying we are doing that just as a matter of efficiency. So we don't have to write two loans.

Mr. MCCARTHY. Well, that almost sounds like——

Mr. MYERS. Well, the interest rates are the same.

Mr. MCCARTHY. That almost sounds like you are proceeding somewhat differently. I have heard from several other State offices that are looking at the concept of not needing the structure of all of the different programs. Why not let you set up an account for a farmer and you work with him in maintaining his financial situation rather than having separate programs? In the past the programs have varied and State and county personnel, of course, had to be up-to-date on all of them, as well as the differences. This would seem to be a much more efficient approach.

Mr. **Myers**. It does except if we don't lose sight of our priority. That's what I am concerned about. If we lose sight of a soil and water priority, and I don't think really that a priority is the aggrandizement of the land holdings. I think the priority is preserving what is there and to preserve that person's economic conditions.

Mr. **McCarthy**. For instance, right now you have received your last quarterly allocation for most of these programs, correct?

Mr. **Myers**. Yes.

Mr. **McCarthy**. So you have got that. If you are like most every other State in the country, you have got people waiting in line in some counties.

Mr. **Myers**. That's correct.

Mr. **McCarthy**. And things are backing up, and it's getting tight moneywise; especially if you get a surge in your economic emergency applications.

Mr. **Myers**. It's leveled off now. But we had money left in the economic emergency program primarily because the interest rates are too high, for one thing, and second, farmers are cautious right now.

Mr. **McCarthy**. Do you have any problems at a time like this when your funds begin to get tight and you are approaching the end of the fiscal year, even though now may not be the time when you are writing most of your conservation loans? Do you find yourself because of regulation, and not something you would necessarily support, looking at the production end of the applicant's business? Perhaps, are soil conservation loans, or other types of soil conservation activity, being put in any type of a lower priority not due to your county or State people, but due to some other instruction coming out of Washington?

Mr. **Myers**. No, I wouldn't say so. I don't think they have ever instructed us that way or established that kind of priority. In fact, I should also tell you that I have resisted program priority out of Washington. I don't think they can write program priority for us.

Mr. **McCarthy**. That's especially helpful because of this; because you are not devoting all to it. It's not set up now where you are putting so much of your overall loan activity for a fiscal year into this.

Mr. **Myers**. It's fair to say they haven't been doing that.

Mr. **McCarthy**. Thank you.

Senator **Jepsen**. Well, thank you, Dick. I know how hard a worker you are and it is refreshing to find someone who is as enthusiastic about your work as you are. I appreciate your appearing and thank you for your testimony.

Mr. **Meyers**. I appreciate the opportunity. Thank you.

Senator **Jepsen**. Now I introduce Mr. William J. Hawks, who is appearing in place of Ken Hatcher, State executive director of ASCS. William J. Hawks, ASCS program specialist, welcome and you may proceed.

STATEMENT OF WILLIAM J. HAWKS, PROGRAM SPECIALIST, AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE, DES MOINES, IOWA

Mr. HAWKS. Thank you, Senator. I have a prepared text and I will read it from the text.

The Agricultural Stabilization and Conservation Service, better known as ASCS, believes preserving our Nation's soil is of extreme importance for present and future generations. Our soil is a basic resource that cannot be replaced. We have cost shared soil and water conservation with the farmer since 1936. The original authorization by Congress in 1936 was $500 million for the agriculture conservation program. However, in 1980 the authorization for the program was $190 million while the need for conservation work continues to increase.

Accomplishments of the ACP provide lasting soil conservation effects on the U.S. farmland and rural areas. Facts furnished by our information department reveal the following: Since 1936 farmers in the United States using the ACP have built 2.1 million miles of terraces. Planted 615 million acres of trees, improved 4.8 million acres of wildlife habitat and achieved stripcropping on 115 million acres of land to protect soils from wind and water erosion and maintain water quality.

ACP accomplishments are impressive but there still remains serious soil and water conservation problems. A major cause of conservation problems is the increasing population and economic pressures on the Nation's 2 billion acres of land. Farmers are forced to crop marginal land to meet basic financial needs. Use of marginal land for row cropping creates increased soil conservation needs.

Iowa needs additional Federal funds for ACP cost sharing of soil and water conservation measures. Every year requests filed by farmers in the county ASCS offices for cost share far exceed funds available. In 1945 Iowa ACP provided $14,157,000 to cost-share conservation work. In 1980 Iowa has received $7,278,000 for ACP. The need for conservation work has increased and ACP funding has decreased. The national 1980 ACP allocation would be $3,850 million if the allocation was increased to allow for inflation and kept in relation to $500 million level of 1936. (The figures were indexed by ESCS.)

If farmers are to install the needed conservation measures, the Government must offer increased cost-share funds. Present returns from the land do not enable the farmer to install needed conservation measures without ACP cost-share funds. Without installation of proper conservation practices on problem areas, land continues to erode away. Row cropping promotes erosion and loss of topsoil which can never be replaced with today's methods. A good conservation program will benefit not only the farmer, but all sections of society, by protecting our Nation's soil.

The conservation law authorizes cost sharing and technical assistance with farmers through ACP to encourage energy conservation. Every year a county development meeting is held to review the past year's program and develop new practices to meet current conservation needs. We feel our county committees and community committees are highly qualified to review the program and develop new practices. Participation by other Government agencies, business leaders, and anyone interested completes the makeup of the development group. You can see these groups are well qualified to analyze and develop a conservation program required in every area of the United States. In fact our awareness of problems and development of solutions is a very strong point of ACP. When the county development process is completed the review and recommendations are considered at the State and again at the National level. The new program is then announced for the next year.

Through this development process Iowa has received requests for practices not adopted in the national program. Some of the requests for practices not adopted are:

1. Cost share for limestone applied on seeded areas for at least a 2-year period.

2. A 4-year seeding practice.

3. A set-aside payment for land during the year a conservation practice is installed on the farm. This would allow timely construction and better utilization of construction equipment.

Cost share of limestone has been called a production practice and production practices are not eligible for ACP. The development groups feel limestone applied to seeding practices prolongs the life of the seeded area and therefore provides a conservation measure at a very low cost.

Presently long-term seeding is an approved practice. This is for a 6-year period. In certain areas of Iowa, seeding practices kill out through the forces of nature in about 4 years. The development group feels a 4-year seeding would encourage acceptance of seeding practices in certain areas of the State.

A set-aside payment for areas where conservation practices are to be installed, development groups feel would encourage installation of practices in row crop land.

ACP offers only practices that are enduring solutions to soil and water conservation farm-related pollution problems. Production-oriented practices are not eligible for cost share.

ACP has funds reserved for special projects and long-term agreements. Funds for those projects are directed toward installation of all needed conservation measures on the entire area included in an agreement.

Iowa ASCS has cooperative agreements with the State of Iowa, county and city governments. The agreements allow each party to join together and solve conservation problems. We feel this is a big step forward because it takes cooperation of everyone to meet the States' conservation needs. The Iowa State ASC committee will continue to explore and encourage cooperative agreements in the future.

In conclusion I will review some important points: ACP has been and continues to be a very effective soil and water conservation program. It is important that additional Federal funds are made available in the future for ACP. The program is locally developed and benefits the farmer and consumer alike. ASCS plans to continue in cooperation with other conservation-minded groups. Preserving our soil for the future is our goal.

Senator JEPSEN. Thank you, Mr. Hawks. How many ASCS offices do we have in Iowa?

Mr. HAWKS. In the State of Iowa we have 100 ASCS offices.

Senator JEPSEN. One hundred. Is that one per county and one county has two?

Mr. HAWKS. Correct. In Pottawattamie County we have it split.

Senator JEPSEN. And you mentioned 4-year seeding practices.

Mr. HAWKS. Correct.

Senator JEPSEN. It seems the testimony has continually reiterated the need for the longer type of the program rather than a fund for Government supplement for 1 year.

Do you feel that that practice is something that soon will be the rule rather than the exception in Federal participation? What is your opinion on that?

Mr. HAWKS. Our move has been from short-term practices to long-term practices in ASCS with the ACP program. The reason we brought the point up was because some areas in the country do have—our State does have trouble with the 6-year seeding practice. It is a thinking that possibly if a 4-year seeding was introduced, the farmer would seed the area and leave it seeded if the seeding continued. Our goal is still long-term practices.

Senator JEPSEN. Do you feel that conservation practices should be voluntary or mandatory?

Mr. HAWKS. I will answer that all of our practices are voluntary, and as a civil servant, I think that I had better answer it that way. That's the way our program handles it.

Senator JEPSEN. You don't want to tell me how you really feel about it?

Mr. HAWKS. I do farm also and I feel it should be voluntary.

Senator JEPSEN. Thank you. I think you are with the majority so far the last 2 days anyway. Susan?

Ms. SNYDER-SMITH. No questions. Thank you.

Senator JEPSEN. Mac?

Mr. MCCARTHY. Nothing, Senator.

Senator JEPSEN. Thank you very much. Very well done.

Mr. HAWKS. Thank you.

Senator JEPSEN. The last shall be the first and the first shall be last and we now introduce James Andrew, Jim Andrew, Iowa Corn Growers Association. Welcome, Jim. We look forward to hearing from you and I am impressed already by your written statement.

STATEMENT OF JAMES ANDREW, IOWA CORN GROWERS ASSOCIATION, DES MOINES, IOWA

Mr. ANDREW. Well, thank you, Senator Jepsen, for this opportunity to address you today on behalf of the Iowa Corn Growers Association. May I say, first of all, that this is the first time I have ever done anything like this so I guess I will regard it as my baptism by fire.

I would like to preface my text with some personal remarks. I am a farmer. I farm in Jefferson, Iowa, which is located approximately 40 miles west of here. In our family farm corporation we have engaged in a 5-year program of building terraces each spring and fall. This program has grown today to include 57 intake tubes, 25,000 feet of parallel terrace and 32,000 feet of tile.

It was done at a total cost of approximately $60,000 of which approximately one-third or $20,000 was reimbursed by State and Federal funds.

Several projects which were not approved by the soil conservation personnel but which we deemed feasible, we went ahead with and built on our own once we could see the use for them. We are farming an operation of approximately 1,400 acres. Five hundred of those acres needed some conservation practices.

As of today 400 acres are good and OK as far as soil conservation is concerned. Of the 100 acres left, we have arrived at an impasse in that our neighbors in the watershed above us are not interested in improvements so we cannot move ahead. And I just found out this morning that we were selected as the 1980 regional winner of our district soil conservation award program here in the State of Iowa.

Senator **Jepsen**. Congratulations. That will be put in the record.

Mr. **Andrew**. I am here today representing the views of the Iowa Corn Growers Association and our recommendations concerning soil conservation and land-use planning. We prefer to take a positive commonsense approach in embracing soil conservation and its impact on agriculture and the world economy.

Despite over 50 years of attempts to amplify public awareness as exemplified in the cartoons of Iowa's Ding Darling in the 1930's, poor soil conservation practices are still in existence throughout our Nation. The world's dependence today on the foodstuffs of this Nation was brought to the forefront in Pope John Paul's message while in Iowa last year. He addressed this Nation's farmers as the "stewards of the soil" and charged them with the responsibility for protecting it from erosion which might otherwise rob its food producing ability.

As with the energy problem confronting this country, we must recognize that a far larger issue faces this Nation. It is the establishment of our national priorities in a fair and just manner in dealing with the concept of dwindling resources. This is and will continue to be the critical issue of the future. Similarly in this vein, conservation and land-use planning are issues of growing magnitude as our resources decline. At stake in this area are established traditions of property rights as determined in common law versus the current and future demands of human rights.

Soil conservation as it presently confronts the American farmer is a matter of sheer economics. Confronted with the inflationary cost-price spiral topped with a mandated embargo to our largest export customer, the implementation of sound soil conservation practices has been lost in the shuffle to just break even financially. Such is the case of a majority of today's farmers.

Another stumbling block confronting good soil conservation is awareness. This is exhibited by the lack of response to public hearings concerning the Resources Conservation Act. Despite its possible implications of conservation by decree, most farmers I have discussed this legislation with know nothing of its existence or content.

A similar example of the lack of awareness is the case of the absentee landlord residing out-of-State who, when presented with the recommendation to discontinue moldboard plowing soybean ground and install parallel terrace replies,

> But Dad always plowed the ground black and didn't need those ugly metal tubes in his soil so why should I incur an expense he didn't feel necessary?

It has been my personal observation that the most convincing method of increasing farmer participation in soil conservation programs is the on-the-farm demonstration. We have installed a considerable amount of tiling, parallel terracing, and other conservation improvements over the years. It is interesting to note that the custom fertilizer truck driver and custom bean combine operator working our ground have both noted the improvements and returned to install such terraces and conservation measures on their own farms.

It is evident from the above cases that we as the stewards of the soil and leaders in our Government must continue to educate both the rural and urban public concerning the complexities of soil conservation and land-use planning. Concerning the Resources Conservation Act, the Iowa Corn Growers Association has adopted the following position.

The Iowa Corn Growers Association supports the practice of good soil and water conservation practices in the State of Iowa while at the same time defending the private property owner's integrity in the use of his land as defined in common law. Proposals in the area of land-use legislation on a State and national level will infringe upon these rights previously vested in the landowner. We favor the continuation of existing programs of voluntary cooperation by landowners and farmers while at the same time providing increased financial and tax incentives to such operators to participate. In view of the present cost-price squeeze confronting America's farmers, it is ridiculous to assume any measure of compliance will be gained by mandating direct compliance by producers in areas of soil and water conservation.

This is why we favor what is commonly called the green-ticket approach which will provide incentives to land users who voluntarily apply and maintain conservation practices that meet proven conservation standards. Such incentives might include higher support prices, more favorable loan rates, and cost sharing without mandated cross compliance. While the likelihood of such incentives is greatly diminished in view of present budget balancing proposals on the Federal and State levels, it is likewise unjust for any level of Government to impose mandated conservation practices upon any farmer which might ultimately lead to his economic demise without providing assurance that such an outcome will not occur. Therefore, we favor the redirection and coordination of the present programs coupled with meaningful financial incentives in gaining voluntary compliance and participation in State and Federal conservation programs at all levels.

Furthermore, the ICGA is concerned about the lack of public awareness with regard to the Resource Conservation Act. While there appears to have been some attempt at involving local landowners in the development of these programs, it has not been enough. We feel that with proper awareness and education toward the problems of soil conservation and land-use planning, landowners would and should become more involved in the development of solutions to these problems.

Therefore, we encourage greater attempts by the various State and Federal agencies to inform and educate landowners to the substantial implications of the proposed regulations.

Finally, in the area of land-use planning, the Iowa Corn Growers Association is concerned with the U.S. Army Corps of Engineers' plan to translocate water from the upper Missouri River to the irrigated regions of the South and Southwest. The plan as recently reported in the Des Moines Sunday Register and the Wall Street Journal concerns us for the following reasons:

1. The inherent expense to the taxpayer in such a pork barrel scheme may be forgotten in the political realm of votes gained and lucrative construction contracts surrounding the issue.

2. The present state of midwest railroads amplifies our need to maintain the Missouri River as a viable source of barge transportation for our farm products.

3. Agricultural producers in the semiarid irrigated areas were aware of the water limitations imposed on their land when they bought it. And that concludes my remarks.

Senator Jepsen. You may finish.

Mr. Andrew. All right. It will not settle well asking midwest farmers who paid $2,000 to $3,000 per acre to support through tax dollars the competitive operations of those who bought their land for $250 or less per acre.

4. Finally, the most convincing argument against the Corps of Engineers' plan is just plain commonsense. At present, many farm operations bounding the Missouri River are using its water to irrigate their own land. If we must expand the acreage under irrigation to meet world food demand, does it not make more sense to expand the irrigated acres in the States immediately bordering the Missouri River rather than to transport its water over 1,000 miles to its final destination? After experiencing the economic effects of two droughts in the last 5 years, many farm operators in Iowa will be very protective of their water resources and vehemently opposed to the proposed plan.

Therefore, the Iowa Corn Growers Association opposes the plan as proposed by the Corps of Engineers and hopes our elected representatives will redirect the activities of the corps toward more realistic and fruitful pursuits.

I hope the problems and concerns shared with you today have not painted a picture of "doom and gloom." The solutions to our Nation's soil conservation and land use planning needs will be neither simple nor quick. By remaining flexible and seeking the solution most acceptable to rural and urban alike, we will adjust to this era of dwindling resources confronting us. If we fail, we have no one to blame but ourselves. We, the Iowa Corn Growers Association, stand ready to do our part in educating the public and our Government's leaders as to the avenues we, "the stewards of the soil," feel are the best course of action.

Senator Jepsen. Thank you, Jim. That was very well done. That was very interesting. I don't think I need to ask this question of you but I will, for the record, anyway. Do you feel soil conservation practices should be voluntary or mandated?

Mr. Andrew. For the association I will say voluntary, Senator. On a personal basis, as I noted earlier, where I am at an impasse with my neighbors, I would like to offer a suggestion that we address that issue on the concept of the old county soil drainage districts.

At the time this land was opened up, we had to install considerable miles of large field tile to drain it. That operation was done through the drainage district concept. The tile was installed, the fee was assessed on the basis of the improvement and it was placed on the property owner's tax bill on a county level.

Funds were also assessed to maintain the system and are still in existence. And I think in keeping in the grassroots level, if we have to mandate some soil conservation, perhaps this would be the most acceptable or the best avenue to approach.

Senator **Jepsen**. I think what I heard you say was that if there is going to be any mandate, it would be in the area where there is some conflict, where there are other parties being harmed or injured because of the failure to act in a cooperative arrangement such as the watershed arrangement. That has been brought up earlier, too, is that correct?

Mr. **Andrew**. That's correct.

Senator **Jepsen**. Susan?

Ms. **Snyder-Smith**. No, thank you.

Senator **Jepsen**. Mac?

Mr. **McCarthy**. One question. With respect to your comments about the RCA, which a lot of other people have shared, let me ask the following. I think SCS maybe received about 30 responses a day during the comment period. But I don't know that—I have seen some figures, but probably it will be a while before we get a better idea of what type of person responded most and why. And, I have a feeling that what you indicated may be shown out; that the farmer comment or landowner comment may not be as great as in some other areas outside of, let's say, grassroots agriculture.

Is there anything that you can point to that was a real glaring omission, as far as trying to make the RCA something a landowner or basic farmer might be interested enough in to take a look at?

I think one of the biggest criticisms we have heard is that RCA documents are very large. Oftentimes if you got a summary of them, it wasn't enough. But when you were faced with a 2-inch book, nobody—especially not farmers—have the time to wade through that. Is there anything in particular that you saw that made you think this whole thing was really encumbered as far as the farmer went?

Mr. **Andrew**. I would say that judging from my personal basis in sitting in Greene County, Iowa, perhaps the advanced publicity was not thorough enough in getting down to the farmer level. Most of what I read in the way of commentary was after the fact in most of the farm journal magazines and the newspaper.

And at the time I was not aware of it myself. I learned of it more or less by mistake of going into the Soil Conservation Service office and receiving a copy of the Iowa RCA plan. At that time I developed the interest and brought it to the attention of the Iowa Corn Growers who had very little knowledge of it prior to that and brought it to the forefront for our organization.

Mr. **McCarthy**. I think that's what is so problematical for the future as far as our committee is concerned, because we will be working with this next year. Of course, in the fiscal year 1982 budget, the Secretary must submit to the Congress under the RCA recommendations how all of this is going to lay out. I think a number of people who are very sensitive to this have pointed out that it may end up being one of the worst problems with the whole thing; that the public input was really not what it should have been. I appreciate your comments very much.

Mr. Andrew. That's correct.

Senator Jepsen. Thank you very much. Well done.

Mr. Andrew. Thank you, Senator, for the opportunity to address you today.

Senator Jepsen. Yes, sir. Mr. Lawrence Blunk has asked that he be permitted to make a brief statement for the record and we will now introduce Mr. Blunk. I understand you have submitted some material for the record.[1]

STATEMENT OF LAWRENCE BLUNK, CASS COUNTY SOIL CONSERVATION DISTRICT, ATLANTIC, IOWA

Mr. Blunk. I have a prepared statement that has been presented from our local district. I am Lawrence Blunk, district commissioner. I have been a commissioner for about 14 years and I was regional director for 6 years from a State level.

I have been and will continue to be a steward of the soil and do what I can to preserve our natural resources. I think there is a most important single element that we can continue to be working in. I want to speak just a minute and most of these thoughts that I have have been reiterated many times over today.

I want to say on our county level that we were appropriated $80,000 of State cost-sharing money and so far there has been $132,000 requested. That gives you a little idea of the degree of funding that we need and could use.

We had a tremendous problem in our particular area or region of the State this year which we hope we won't have again. And that's our severe storms which we had and caused erosion problems that are just unbelievable. Areas where we had as much as 150,000—no, 150 tons to the acre soil loss. And in our region of the county, north half, we probably had every road, culvert overtopped and insurmountable problems with soil erosion and too much dirt moved from the right place to the wrong place.

We would need increasing funding very badly to catch up with the problems that we have and the continued future of this program is that there is no end of how long it will take unless we can increase our pressures for more funding on this level. We would need more staffing. We have cut back in staffing which is a big problem for us.

I might say that we took a tour with the State and local ASCS committee and our commissioners. We toured some of the areas of the county after some of our major flooding problems and erosion problems. And our 566 watershed program which I highly recommend and in which we have four watersheds in various stages of operation in our district, we toured the one in Turkey Creek Watershed with these committees and we showed the various officials the advantages of permanent practices.

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[1] See p. 261 for the material supplied by Mr. Blunk.

And, of course, one of the prime structures was Lake Anita. But many watershed structures, silt ponds, et cetera, in the area and when we got to the highest concentration of that, Turkey Creek didn't overflow. We didn't see the road ditches filled and we saw very, very good control.

When we got over to the west of it and to the east of this concentrated area, the problems were very, very visible. It's just proof of the pudding so to speak. I think we need to educate more people. I think that the key to this thing is education.

One little thing that I have a particular bug about, I guess, in our soil conservation program is the need to educate more people to build or to use grass waterways and headlands rather than turn rows up and down the terrace or the waterways and up and down the hillsides. All we need to do is to analyze this a little more and we find out this will be a major problem.

I think one of the things we have done on the county level, we have an exhibit at our county fair of tillage equipment, minimum tillage equipment emphasizing some of the advantages and so forth of this type of a tool. And the fuel saving and soil saving and everything, that's what it's all about. I don't think I have anything left. I will continue to work as a steward of our soil. My health has given out somewhat, but I have the farm in good hands and I will continue to work my best to do what little I can. I don't think there is anything more important in this country than the stewardship of our soil and our water and our natural resources.

Senator **Jepsen**. Thank you very, very much for taking time to comment. Your comments were excellent and sound like an area of education and application on a voluntary basis for soil conservation. You have taken some great natural strides there with the display of tillage equipment at your State fairs right in your own district. You can go from one end to the other and you can show them what happens when you have good conservation and you can show them what happens when you have not so good conservation.

So you have got it right there at home which is where we do things best in our own backyard where we have the best control of them. Thank you very much. Appreciate it.

Mr. **Blunk**. Thank you.

Senator **Jepsen**. The following written statements have been received and will be made a part of the permanent hearing record.

We have one from George Groenwold, chairman, Clay County Soil Conservation District Commissioners. And we have one from Larry Beeler of Peru, Iowa, and one from Lee Dallager, president of the Iowa Izaak Walton League of America.

At this time I would like to express my appreciation to Dave Henry, the assistant of President Parks here at Iowa State University for all of his good assistance. To Tom McCormick, the conference coordinator and building manager is Barb Glaff, Jeff Whitney, and Joe Baker. And, of course, Gil and Joe Moore have done a tremendous job at the registration table. I appreciate that.

At this time, I would like to ask, are there any persons in the audience who desire to be heard? We invite you to participate. Is there anyone that desires to make a statement or desires to be heard?

The Chair, hearing none, would thank the group and all of you who testified today. Seems like every day that goes—this is the second day now and it gets better by the day and by the hour. I compliment you on your testimony.

I again reassure you that it will be made part of the record and made public and be used by both the staffs and the Senators of the Senate Agriculture Committee as we develop plans for soil conservation next year. It's my hope that if you have any suggestions or counsel or comments at any time, you would please feel free and I invite you to contact any of our offices here in the State or my office directly in Washington. And I need all the help that we can get. I am the hired man that you sent back here to work for you and we need all the input that we can receive from you.

The Chair, seeing there is no further business to come before this group today, declares that the subcommittee will stand recessed and will reconvene at 9:30 a.m. tomorrow in Fairfield, Iowa. Thank you for coming.

[Whereupon, the subcommittee recessed, to reconvene Friday, August 15, 1980, at 9:30 a.m., in the Jefferson County Courthouse, Fairfield, Iowa.]

SOIL CONSERVATION

FRIDAY, AUGUST 15, 1980

U.S. SENATE,
SUBCOMMITTEE ON ENVIRONMENT, SOIL
CONSERVATION, AND FORESTRY OF THE
COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY,
Fairfield, Iowa.

The subcommittee met, pursuant to notice, at 9:30 a.m., in the Jefferson County Courthouse, Hon. Roger W. Jepsen, presiding.

Present: Senator Jepsen.

STATEMENT OF HON. ROGER W. JEPSEN, A U.S. SENATOR FROM IOWA

Senator JEPSEN. The subcommittee hearing on soil conservation will please come to order.

I wish to welcome you to the final day of 3 days of hearings held by the Subcommittee on Environment, Soil Conservation, and Forestry to discuss soil conservation. Prior to calling the first witness, I would like to take a few moments to briefly outline why these hearings are being conducted and the type of hearing record we hoped will be produced.

During the 1970's our Nation began to focus more intently on the serious problem of conserving our soil and water resources. In the State of Iowa and other Midwestern States, this focus is especially intense. This is due to the fact that problems of soil conservation, in particular, represent a threat to the primary form of subsistence underlying our heritage, our economic strength, our firmly held family values, and the future of the most productive segments of our national economy, and that's agriculture.

Concern about soil conservation can be found throughout our citizenry, and I could think of no better place to begin congressional review of soil conservation programs and practices than right here at home in Iowa. Next year, Congress will undertake a lengthy evaluation of basic agriculture programs in preparation for consideration of a general farm bill. I do not feel that such an effort will be complete unless we do review our soil conservation programs and the assistance they seek to provide. And I personally guarantee and assure you that soil conservation programs will receive top priority in the Senate Agriculture Committee deliberations in 1981.

Therefore, I requested that these 3 days of soil conservation hearings in Iowa be started and initiated as part of our information-gathering process to formulate plans for soil conservation programs next year in the Senate. I expect the hearings to serve as a suitable prelude and foundation upon which to build a thorough examination of the Government's soil conservation efforts to date. I want this dialog to continue—in Congress and elsewhere—but I feel it must begin here where the subject is so important. In order for Congress to tread the right path, it first must receive proper direction. It is essential that we in the Senate and our counterparts in the House of Representatives learn more about what farmers and soil conservationists are doing at a local level. Simply put, we need to find out what works and what doesn't. And I'm very pleased to say in the last 2 days of hearings, first at Waterloo on Wednesday and at Ames yesterday we've had some problem-solving testimony. Solving these problems is what we need to get at. As one farmer said the other day; you can lead a horse to water but you can't make him drink. A lot has been said about how to get the farmers to step up and bite the bullet and practice soil conservation on their land and pay their share of it. So, simply put, we need to find out what works and what doesn't. It's a process I think we should follow to keep informed and continue on a grassroots procedure as we develop the U.S. Government role for the 1980's in the conservation activity.

We're here to listen and to learn. Your testimony, suggestions, and comments will prove invaluable to a proper understanding of conservation needs to better protect our soil resource. Rather than force feed you a diet of Government proposals that you don't want or can't afford, I prefer that you speak out and share with this subcommittee what your ideas are and how your objectives can be realized. To help achieve this end. we have assembled a representative group of witnesses at these three hearings and we look forward to your presentation today.

Armed with a comprehensive hearing record illustrating what has been successful on the local level and indicating what more needs to be accomplished, this subcommittee can better tackle the 32 existing conservation programs within the USDA in order to provide the necessary improvements. We also need to know where and when not to tinker with effective practices. There is an old adage that Governmen must be advised of and that is. you don't fix it if it isn't broken. Iow can provide, and in many ways has already provided, an example i the soil conservation area for others to follow.

Please be assured your messages and statements will be recorded taken back to Washington, and published for the committee and general public use. Hopefully, the results will be tangible. I would muc prefer shipping your words and proposals out of State than I d our fertile Iowa topsoil which seems to be exported right along wit our corn.

We need testimony from you to make our case for soil conservatio convincing and compelling enough to get the support of the Congres for needed legislation. The only thing more effective than your testimony would be a dramatic, real life situation similar to the one tha occurred at the birth of the Soil Conservation Service. This is a actual story. Senator Schwengels and others here who have been working with soil conservation may be aware of it. but if you recall—an history will note itself, on April 2, 1935, a man named Hugh Bennet was testifying that day before the Senate trying to get the Government to move off dead center, and start some kind of a soil conservation program. Well, as he sat there that afternoon the sky suddenly darkened over Washington, D.C. as a swirling cloud of dust blew in from 2,000 miles inland. For Hugh Bennett, who was testifying before the Senate when the storm appeared, the disaster of the Plains was a tragic vindication of his repeated warnings about soil erosion This is a true story and this event brings vividly to mind our earlier failings with respect to soil conservation. Hugh Bennett, who then was the head of the USDA's Bureau of Soils, had to wait for this devastating act of nature in order to convince the politicians and bureaucrats that a permanent soil conservation program was needed. And the Eastern city dwellers and cousins could only stand the grit in their teeth for 25 days, because that's how long it took them to establish the Soil Conservation Service after that dusty afternoon. When Congress then directed the Secretary of Agriculture to create the Soil Conservation Service, it was done in 1 day.

I doubt we can effect change that quickly nowadays. The problem, however, has not lessened at all and cannot be ignored. We must come to grips with the future now in order to have one. These hearings in my opinion are a very good start. So on with the hearings.

Due to the fact that we have a full schedule of witnesses today, I would like to ask that all oral statements be limited to a maximum of 10 minutes. My assistant will have a timer here and he will start it when the testimony starts. When you hear a bell, it means if you're not finished, please summarize as quickly as reasonably possible if you can still get across the subject matter you'd like to give us. We will not jump up and cut everything off, but we would ask that you try and contain the remarks to within the 10 minutes.

In addition to that, during the course of the hearing today if there is anyone who wishes to ask a question of me or any other panelist, we would appreciate that you make a physical or mental note of it. I assure you at the end of these hearings we will provide a period of time then when you may submit for the record a verbal testimony or you may submit written testimony if you prepare it between now and that time. At that time we would only ask that you give us your name and your full address for the record, and your occupation, if it would be of some help in presenting the testimony by way of identifying where it came from.

We also would like to know who you are so we can reach you for the purpose of additional comments or questions if that becomes desirable.

Thank you very much for the cooperation we will have in these hearings. At this time I would like to introduce Pete Versteegan, a representative from Congressman Leach's office, who has joined us here. I appreciate you being here, Pete, and thank you for coming. To my immediate left is Susan Snyder-Smith. Susan is a legislative assistant on my staff, and she will be researching soil conservation policies and programs for me next year in the Senate of the United States. She grew up on a farm in northwestern Ohio, near the town of West Unity. On my immediate right, your left, is Mac McCarthy. Mac is a professional staff member of the U.S. Senate Agriculture

Committee. His hometown is Baton Rouge, La. And over here, the gentleman in the brown suit, who has been very busy here, is Dick Chambers, field representative in my office for the First District. Dick has made, along with the cooperation of people in the courthouse and many others here, these arrangements.

We are starting out in pretty good shape and at this time I will introduce Mr. Ralph Arnold from Keosaqua, Iowa. Is Mr. Arnold here? Mr. Arnold, would you please come up? Welcome and we look forward to hearing from you. You may proceed.

STATEMENT OF RALPH ARNOLD, KEOSAUQUA, IOWA

Mr. **Arnold**. Senator Jepsen, distinguished guests, ladies and gentlemen: I am speaking, first as a farmer and second as a concerned citizen about soil conservation. There is nothing I can say about the loss of our soils, or the nonpoint pollution of our waters or the merciless slaughter of our woodlands, that hasn't been said by someone before. Immense volumes have been written, a billion words spoken, thousands of pictures shown of man's raping and destruction of our land. I need not tell you on the average of 8 tons of soil leaves every acre in Iowa each year. I need not tell you 2 bushel of soil is lost for every bushel of corn produced. These things are well published and well documented. We know we have a problem, and we know we have the solutions. We are just not using the knowledge we already possess.

All across this land of ours are people who work the soil, who do not contribute to the nonpoint pollution of our waters. Who do not build gullies. Who do not cause the cancerous sheet erosion. These are people who love and cherish the land and keep it. Who protect the wildlife and the woodlands. These are the people, Aldo Leopold said have "land ethics." But these are the people who, in the past, have suffered the hand of discrimination by the Government. When they attempted to participate in the programs of controlled production. I am speaking of the so-called diverted acreage, the set asides, based on past histories of the farms use, from which the farmer has received subsidies. They have seen their neighbors, who carelessly used their land in growing crops on land not suited to row-crops or used other soil depleting production practices, given larger monetary rewards. This cannot be considered fair and equitable. If such programs are offered in the future, steps should be taken to correct such injustices. Surely the soil abusers should be penalized, and not the people who care for and protect the land.

On the law books of our Nation are enough laws and directives to protect our land or our soil and its renewable bounty. Within the Department of Agriculture and its co-bureaucies, in the land grant colleges and experiment stations, and the agencies within the Department is enough information and knowledge to preserve our land, our woods and our water.

All that is needed is for these acts, laws and directories and this knowledge to be adequately financed, judicially enforced and effectively and aggressively carried out. All the tons and tons of paper used in discussions setting forth the problems and solutions, both pro and con, of what and what not to do, about soil conservation never protected one teaspoon of soil. It is only in the field, at the place where destruction of our natural resources is taking place, where the battle must be fought.

The Department should know, its employees can't all be chiefs. There must be a batch of Indians out on the firing line, next to the problem, assisting the farmer in solving the delimma.

The American farmer likes nothing better than a bountiful harvest. He likes nothing better than an inch of rain every Saturday night, no bugs, no hail, with bins and cribs running over, and a decent price for his produce. With this he is in "seventh heaven." The American press tells him he is the most efficient farmer in the world. He believes this, as he should, because one American farmer feeds 50 other people. But how does he do it? By abusing his soil, by using up the fossil fuels, and by extending the Delta further out into the Gulf of Mexico.

We squandered our oil in about a hundred years. We should have learned a lesson. Let us use what methods we already have: Let us enforce the laws we already have. Let us understand that all Americans, both rural and urban have a stake in preserving and protecting our soil, our water and woodlands. Let the urban population understand, if they are to continue to eat as cheaply as they have grown accustomed to, they must support soil conservation to the limit.

We must insist other departments and agencies of the Government, such as the State Department, recognize the source of the natural resources now being used to balance the world trade deficit, must be protected to continue to produce. Let us not become dependent upon an arrogant and haughty neighbor for our food as we do in 1980 for our fossil fuel. Therefore, let us take the knowledge we already have and apply it. Therefore, let us use the laws we already have written and fully fund and enforce them. If the Defense Department can be funded in billions of dollars to protect our shores from the invasion of foreign foes, why can't a Nation such as ours, supply the funds for the protection against the erosion of our soils and the polluting of our waters, the source of our food and fiber?

At the local level of our government, in each county, are several agencies engaged in some form or another in soil conservation. They are to be commended for their work, generally, but they also deserve some criticism.

The Soil Conservation Service, perhaps the oldest agency engaged in conservation if you count Herbert Hoover's Erosion Service, seems bent on creating a lot of top brass. The agency needs employees with dirt under their fingernails and mud on their boots. Then there is the Agricultural Stabilization and Conservation Service. You sometimes wonder what the word conservation is doing in their name. They are charged with providing the Federal incentive payments to landowners wishing to apply conservation practices. The handbook they publish states 50 percent or more of the cost of installation of the practices shall be shared. There is one other little line, it says or "the amount determined by the county committee". The county committee, certainly, never got carried away by the determined amount. They should be required to meet a full 50 percent of at least the estimated cost of a practice.

The Extension Service, the educational branch of the Agriculture Department, is supposed to lead, show and instruct. They used to do this by holding community meetings, then township meetings, finally countywide meetings. For some reason people ceased attending the meetings. The powers that be, liked these meetings so well, they now hold meetings for the county extension directors on an area and Statewide basis. They must have so much information in their heads they have to carry part of the information in their pants. Iowa State University and its experiment stations are supposed to develop new ideas and concepts for agriculture. About 15 years ago a machinery company and a chemical company began to advocate a different and radical idea of farming. A few States recognized there was something here to use for soil protection. Good old Iowa State University still advocated: "Getting bigger or getting out". They seemed to lean toward the "big buds" and the multibottom plows, to turn over the earth, even though the yellow spots in the black land, grew bigger each year. To their credit though they are now beginning to investigate this radical idea.

I am talking about "no-till" or similar methods of raising crops. People with soil ethics have known for years the soil is protected from erosion, both wind and water, by the vegetative cover maintained on the soil surface. This is the primary result of "no-till", surface protection.

Again, I say, we have enough knowledge, we have enough laws, we have the manpower to conserve our land. All we need to do is fund, enforce and carry out what we already have—right now!

Thank you.

Senator Jepsen. Thank you, Mr. Arnold. Now, I'm going to have to hire your speech writer. Did you write that? It's very good.

Mr. Arnold. I'm sorry, but I did.

Senator Jepsen. It's very good. Mr. Arnold, do you feel that the practice of soil conservation should be a voluntary thing or should be made mandatory?

Mr. Arnold. I firmly believe in voluntary as long as we can ever achieve our goal. The last resort is mandatory. Who in the world would want to say: "Hey, Joe, you've got to do this or else."

Senator Jepsen. I might add for everyone's benefit I intend to ask this question of everyone who testifies. I have for the last 2 days, because I want the record to indicate the thoughts of all who testified on this subject. It is something that is discussed continually in the conservation circles and there is a lot of feeling about it. Again, an excellent delivery of excellent subject matter. Interestingly enough you touched on a number of points that have been touched upon in the other 2 hearings. Your point about urban dwellers needing to know how important soil conservation is was thought up yesterday. Polk County Conservation Committee, as you probably know, has an urban member on their committee as well as one of the commissioners and they testified they have very excellent cooperation and understanding from the folks in the city of Des Moines, the largest city in Iowa and West Des Moines and that whole area.

There are some 260,000 acres in their conservancy district and they have the good will and assistance of urban people. What we're learning from this testimony is, as I indicated, some very practical suggestions. As you indicated, we need commonsense and someone who understands the problems and has a little dirt under their fingernails. I assume you mean they should see it firsthand on the firing line rather than the storybook solution in Washington. Susan?

Ms. **Snyder-Smith.** I heard you say you sometimes wonder if the ASCS officials know the word "conservation" is in the title of their agency. We've all heard that. I wondered if you had any specific examples you would like to mention for the record or just talk about the programs in particular?

Mr. **Arnold.** I think they do an excellent job. I'm highly critical of the methods of which they do fund or assist with the help. I still think that if these projects are worth using, that we shouldn't spread that money so thinly, that it really doesn't help. It costs now many dollars to build terraces, for instance, and we're talking about $5, $6, $7, $10,000 jobs. A thousand dollars isn't worth a darn and this sometimes happens in our appropriations.

Ms. **Snyder-Smith.** Thank you.

Senator **Jepsen.** Mac?

Mr. **McCarthy.** No questions, Senator.

Senator **Jepsen.** Thank you very much, Mr. Arnold.

Mr. **Denmire.** Mr. Jepsen, would you please have these people speak in these microphones. I may be the only person hard of hearing, but I can't understand a word.

Senator **Jepsen.** Can you hear me?

Mr. **Denmire.** Not—very little. When you speak straight into that, I can hear you. But unless you do, I don't.

Senator **Jepsen.** Now, does that help?

Mr. **Denmire.** That's wonderful.

Senator **Jepsen.** See what happens when people identify the problems; we can solve it.

Mr. **Denmire.** I've got one.

Senator **Jepsen.** Very good. I appreciate you telling us.

At this time I'd like to introduce and welcome a man who needs no introduction and is always welcome all over the State of Iowa and this country when it comes to soil conservation or anything else, Senator Schwengels. Frosty, you're on deck.

STATEMENT OF HON. FORREST SCHWENGELS, IOWA STATE SENATOR, FAIRFIELD, IOWA

Senator **Schwengels.** Thank you very much and it's kind of a tough act to follow there. I do not have copies of the few comments I will be making, but I do have some copies of some other material which I would like to give you. First, I'd like to congratulate Senator Jepsen and his staff for this series of hearings. I think it's the kind of thing that is eventually going to accomplish the education process we've all been talking about. And then I would like to submit a statement by Mr. Phil Huff, who is a land improvement contractor.

I thought you might like to have some information from a different perspective on soil conservation. I also have here copies of the legislation that we passed in the Iowa Legislature this last session and some remarks that I made at a national conference on water quality held in Atlanta. I'd like to leave those. And then we talked this morning, Senator Jepsen, a little bit about the conservation folder concept. I don't know whether you have copies of that or not, but I have a sample copy of the conservation folder which is now a requirement under Iowa law. It is a requirement to be provided by the department of soil conservation, so it's one of those things that's going to require additional technical assistance.

Senator **Jepsen**. All right. The Huff statement, the copies of the Iowa soil conservation legislation, and your personal remarks will be made a part of the record.[1]

Senator **Schwengels**. Thank you, Senator. It's interesting that you should mention Mr. Hugh Bennett. I suppose if I have a reason for being involved in soil conservation, other than having been raised on a farm and being an Iowa boy, it is the fact that I lived for 3 years as a next door neighbor to Mr. Hugh Bennett when I was stationed in Washington, D.C.

We have a crisis in soil conservation; I think this is pretty obvious. It's beginning to show up rather seriously in this State, as you no doubt have seen in your visits. This is partly because in certain parts of the State there is decline in the dairy industry, and a lot of that soil now being plowed up maybe should have remained in pasture. Some time ago we had a beef freeze at the Federal level, which did some things to prices of beef that caused people to change their agriculture practices. A lot of farms that were previously in livestock went into row crop; much of the land maybe should not have been tilled. I bring this up because I think it's extremely important when the Agriculture Department and Agriculture Committee look at a program and they try to analyze what that program will do in relationship to saving the soil or losing the soil. Mr. Butz and others have said we ought to plow fence row to fence row so we can provide additional money for our balance of payments. I think that's fine. There really isn't anything wrong with plowing fence row to fence row if you remember, in the process, as the previous man said, that you've got to provide at the same time the incentives—money or other incentives—to make sure that that new land that is opened up is properly protected.

A good share of Iowa land can be protected and can be cultivated. I think we're now in the right time to move ahead in soil conservation. We have several things that are working for us. One of them is the interest; great interest in land use throughout the whole Nation. And I suppose the people that are most interested of all are the people who are in the urban areas. And as a result of this they've become aware of the soil conservation problem. The land-use committee in this State, which met over a period of a year and a half with local representation, came up with the idea that soil conservation is probably the most important land-use problem. Many of these people were urban people that came to that conclusion, so we have that on our side. We're losing 261 million tons of soil a year in the State of Iowa, and if we lay that out 5 inches thick, we're talking about 400,000 acres. There are very few counties in the State of Iowa that have more than 400,000 acres of soil under cultivation. We're taking out the average of one county a year. Another thing that's working to our advantage now, a reason we should continue to press for soil conservation activity, is a tremendous interest in water quality.

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[1] See p. 292 for the material submitted by Senator Schwengels.

The people at Atlanta, where we were invited to talk about the Iowa 2000 program were pleased and in some cases amazed at what we've been able to accomplish here, and it became apparent that they were suddenly discovering that soil conservation could make a major contribution in the change of the water quality of this State and this country. And then finally, as mentioned before, we have the problem of energy; energy costs are high. This is, in itself, an incentive for people to look at different agriculture programs—in some cases conservation tillage, in some cases no-till. I think that in Iowa we have maintained the program in soil conservation that has done the most it could to keep this a bipartisan kind of an operation, and it really should be. We hope that this could carry on at the Federal level. Also, in Iowa we don't have the inner-agency battles that seem to be taking place sometimes in Washington, D.C. And I would hope that the administration and the Congress would do what they could to try and calm down those inner-agency fights, even sometimes between ASCS and SCS. Last summer we held hearings in this State which became known later as the Iowa 2000 hearings, and I'm sure you're finding out, as I did, that there's a tremendous interest in this program. Those hearings were held in four different places in the State last year to help formulate our recommendations to our legislation. As a result we passed legislation beyond our wildest dreams. I think what you have there in those laws should be a model for some things that might be tried on a national level.

I think it's extremely important that we get the Federal Government, as well as the State, to look at the possibility of long-term planning. We know that long-term goals are just that, they're long-term goals. But unless you start at that point as we did in this State, and say that at some time in the future we're going to have a nondepletion level in our soil conservation program, it will just continue to be piecemeal as it has been in the past. I don't mean to downgrade what we have done in the past, because we have made tremendous strides. It's the changing agriculture practice that comes upon us, particularly with this need for foreign trade to balance our payments, that has caused some serious problems. We need most of all, I think, some very very important contributions from both the State and the Federal level in terms of technical assistance. We continue to talk about mandatory requirements for soil conservation and the Iowa law, as you know, does have mandatory requirements. We do have situations that we can enforce certain kinds of soil conservation practices where people are losing tremendous amounts of soil and doing damage to other people's property. We have that. But that's not a requirement—it's not a requirement that we do that to everybody. But it is a requirement that, if we're ever going to get and are going to continue to talk about mandatory possibilities, we provide people with the necessary incentives and the necessary education before those mandatory requirements are instituted. I think we can do a lot by rewards.

It's my personal opinion, from my contact with the agricultural people of this State, that 95 percent of these people, if they have the right incentive and the financial ability, will take care of their own soil problem very very well. How do we do that then? Well, there is not enough money. If we're talking about permanent practices in the State of Iowa alone, we're talking about $60 billion—not million—billion to get that done. There is no way over the short term, even over 20 years, that we could get that done. In the meantime we have to provide educational incentives to get it done. We have to do all we can in conservation tillage and no-till to nail down the most fragile soils, and to nail down even the nonfragile soils till we can get to the place where we have the money to do the permanent practice activities. We need to make sure in our program, whether it's a State program or Federal program, that we not do as we do in other kinds of activities; the States, the cities, the counties that do the poorest job get the most money. This is the wrong approach in soil conservation. There ought to be a system set up—and I think we're trying it in soil conservation—which would demonstrate that many of our other programs could operate that way too. People who are doing the job ought to be rewarded, and I think we can reward many of those people who have their soil loss down to zero or below the limit by some kind of tax incentive or by providing individual recognition. I don't know whether you can do that on a Federal level. We certainly ought to do it on the State level. If the Federal level could, it would be helpful.

Some farmers like Tom Krumboltz and some of the others in my district who have all their farmland nailed down and are well below the soil loss limits, ought to receive some kind of recognition. And then finally, we need some tax incentive, either tax credit or investment credit for those people who need to do permanent practices. And I think that if we had those, either of those two programs—tax incentive or tax credit—we'd find a lot of people who would get interested in the program rather quickly. If we could have even a 20-year program and one-twentieth of the cost of that project over 20 years on a tax credit, we'd see some real activity, I believe, on the permanent practice side of soil conservation.

Senator JEPSEN. Senator, as usual, your testimony was very interesting and it was excellently prepared and equally well delivered. Do you feel the practice of conservation should be on a voluntary or a nonvoluntary basis or mandated?

Senator SCHWENGELS. The practice of soil conservation should be generally on a voluntary basis. I think the Iowa law treats the thing properly. Ten years from now, approximately, those people who are still losing two times the allowable limit will be asked to correct the situation. Finally if they can't get together themselves they may be told that they are going to have to take some action to save their soil, but that's 10 years down the road. In the meantime—I think that if we have the proper incentives we won't need the mandatory system except in a few cases. There will always be a couple percent of people that aren't going to do the job. You'll find some people—I know of somebody, and so far I still count him as a friend, who has about 10,000 acres, and the more he buys, the more he plows. And when he plows, he plows straight across terraces and everything else. If he doesn't cut that out in a year or so, I don't think I'll be his friend anymore. That kind of activity shouldn't be allowed.

Senator JEPSEN. You mentioned tax incentives. One thread woven in the fabric of the testimony the last couple days is the problem we have with the young farmer and young person just getting started.

It has been stated loudly and clearly that there would be a lot more soil conservation practiced if the farmers had a profit for their labors and on their investment. And that credit and other things are essential, participation by county, State, and Federal, and the cost is essential. But for a young farmer getting started, all of that doesn't help much when he has a hard time just getting the money he needs to get the crops in the ground. When you mention tax incentives, do you have any particular idea how we may induce or reward a young farmer for practicing soil conservation?

Senator SCHWENGELS. Well, there is some information that we had the last time at our legislative hearings that indicated that we would get many, many young farmers who are rather strapped to become involved if we could give them a tax credit and then give them, in addition, a loan; provide a loan fund for the matching share of their soil conservation. And this certainly would be a good investment on our part, because we would be saving soil, continuing to provide an agricultural base for this State and this Nation. So I think that's one thing we could look into is to provide a loan fund for the farmers' cost per share part and then a tax incentive to help him regain it.

Senator JEPSEN. It's interesting to note in the testimony that the young farmers now coming along show more willingness and readiness and desire to practice soil conservation, which I think is a tribute to the awareness that's being created, through education at universities, and schools.

Senator SCHWENGELS. I think that's also being encouraged by economic necessity where they can do almost as good a job and in some cases an ever better job with less equipment and fewer times across the field on nontillage.

Senator JEPSEN. Susan?

Ms. SNYDER-SMITH. No questions.

Senator JEPSEN. Mac?

Mr. MCCARTHY. No questions.

Senator JEPSEN. Thank you again, Senator. I want to come in and congratulate and thank you as head of the senate committee and from the Iowa Legislature from which the 2,000 Iowa laws came. I think we'll find this is going to be pointed to and used as an example nationwide. And this community can both take credit and be proud of the fact that soil conservation practices nationwide I think are going to be practiced that originated right here in this area.

At this time I would like to introduce and ask to come up for testimony, Mr. William J. Brune. Your name is synonymous with all kinds of good things in Iowa and soil conservation and we welcome you and you may proceed.

STATEMENT OF WILLIAM J. BRUNE, SOIL CONSERVATION SERVICE, U.S. DEPARTMENT OF AGRICULTURE, DES MOINES, IOWA

Mr. Brune. Thank you, Senator. It is a pleasure to be here today and I certainly appreciate the opportunity to appear before your committee to talk about soil conservation and some of the conservation needs in the 1980's. I would like to start my statement with a quote.

> I look at my young children, and think about the day when my grandchildren will be my age, and I wonder how we'll be remembered by them. I predict we will be remembered as the most greedy, inconsiderate people on Earth because of the way we've treated our soil. We're mining our topsoil, that's what we're doing, and the effects are going to be far-reaching.

That quote is from a cattleman in Adair County, Iowa. He was talking about the serious problems we have with topsoil loss in this country. He was talking about growing corn and soybeans up and down hill on steep slopes, encouraging water runoff to tear away topsoil and carry it off crop fields. He was talking about tearing up pastures and planting them to corn—on hillsides that just cannot stand the pressure of such crops. He was talking about raping the land, looking for short-term profit without regard to long-term consequences.

He saw what I saw and what hundreds of southern Iowa farmers saw this spring—hillside after hillside with deep rills between every crop row, and piles of mud that washed into fence lines and road ditches.

In fact, soil erosion caused by heavy rains this past June ranks among the worst ever in Iowa, according to our USDA Soil Conservation Service field offices.

Statewide, 4,292,800 acres lost more than 10 tons of topsoil per acre.

The figure was the highest since 1974, when 4½ million acres had erosion over the 10-ton figure.

The worst damage was in southern and western Iowa, but there were soil losses from all parts of the State. Wherever hard, fast rains swept through a county, they left their mark.

Soil erosion was termed "the worst in memory" in east Pottawattamie and Cass Counties, where losses ranged up to 150 tons an acre. In western and southern Iowa, numerous county estimates showed a third to half the row crops suffered severe erosion—more than 10 tons per acre.

Counties estimating at least 100,000 acres with severe erosion include Mills, Pottawattamie, Shelby, Harrison, Plymouth, Marion, Davis, Benton, Hancock, Sioux, and Woodbury—11 counties.

On some fields, in just a week's time, we lost an amount of topsoil it takes nature 500 years to replace.

Erosion was so severe in some cases that farmers had to disk fields twice before replanting, just to get the land level enough.

This year's rains were particularly destructive because they followed a dry spring. The soil that was tilled for crops was powder dry, loose, and ripe for soil erosion.

I traveled over the State and saw the severe erosion, and it was the worst I've ever seen in my 30-year career.

You might wonder how it could be so bad in these modern times? The problem is the full-steam ahead attitude of raising row crops—whether or not it's on marginal land.

Look at the figures. In 1960, we had 12.6 million acres of corn and 2.6 million acres of soybeans in Iowa, or about 15 million acres of row crop. We had 7.7 million acres of oats and hay. Compare that to now, about 20 years later.

We're talking about 14 million acres of corn and 8 million acres of soybeans, or 22 million acres of row crop. The increase from 15 to 22 million acres of row crop in the last 20 years is a 47-percent increase, and most of it has come from marginal land. The marginal land had probably been protected with oats or hay in rotation or pasture in 1960.

That's how we can get such horrible soil losses, in spite of a lot of conservation progress. Granted, there were heavy rains this year that were more widespread than other years, but every year there are rains that cause serious soil erosion.

TOPS IN AG PRODUCTION, EROSION

Iowa had more acres of corn than any State in 1979, and also had more principal crop acres than any other State. The State ranked second to Illinois in soybeans. Unfortunately, that production record also gives Iowa the distinction of being the No. 1 State in soil erosion.

The 1977 erosion inventory showed we have an average rate of 9.9 tons of soil loss per acre per year on cropland. That's twice the national rate of 4.8 tons an acre. Take the 9.9 tons an acre times our cropland acres and you get a figure of 261 million tons of topsoil lost each year. It's overwhelming.

Or, let's look at the topsoil in inches rather than tons. Half the topsoil has been lost on unprotected sloping soils in the past 100 years of farming. There is generally 6 to 8 inches of topsoil remaining, and that is being lost at about an inch every 14 years. In other terms, 2 bushels of topsoil are being eroded for every bushel of corn being produced on unprotected land. Only a third of the land in Iowa is adequately protected against soil erosion.

A soil depletion study conducted on 2.1 million acres of unprotected cropland in southern Iowa recently shows similar results. It was conducted by SCS and the USDA Economics, Statistics, and Cooperative Service (ESCS). That study concluded that 40 percent of the 2.1 million acres in the southern Iowa rivers basin will be severely eroded by the year 2020—if erosion continues at present rates. Right now, about 10 percent of that land is severely eroded. That's why much of it is in pasture or meadow. It's not easy to grow corn and soybeans in subsoil.

THE JOB AHEAD

As I said earlier, only a little more than one-third of the land in Iowa is protected against soil erosion. What kind of job lies ahead? I'll briefly list a few of the major practices and explain their status, with figures from resource inventories compiled by soil conservation districts in Iowa:

Terraces.—1.2 million acres of Iowa land are protected with terraces and sediment and water control structures, but about 7 million more acres need terraces. The job is only one-sixth complete.

Conservation tillage.—More than 11 million acres were planted last year with reduced tillage, or conservation tillage. However, only 5 million acres had enough residue on the soil surface for adequate soil protection. The practice could be used statewide, and is needed on 15 million acres. Job is one-fourth complete.

Contouring.—About 5 million acres are being contoured in Iowa, leaving 8 million acres that still need to be contoured. The job is 40 percent finished.

Erosion control structures.—About 20,000 of a needed 67,000 erosion control structures have been built. Less than 30 percent of those needed have been built.

NEED A COMMITMENT TO THE LAND

Overall, the rate at which Iowa land is being protected is only one-fifth of the rate needed if we're going to protect our soil resource base. As the southern Iowa soil depletion study shows, we stand to lose 40 percent of the topsoil there in the next 40 years. The timeframe is short.

In the 1980's, this decade, we must stop the disastrous depletion of our finite soil resource. If we do not, we certainly could be remembered the self-centered, short-sighted society which squandered resources.

We need a national commitment to soil conservation—one much, much stronger than we've had in the past. It's time for a strengthening of the land ethic—time for everyone to develop a sense of caring for the land. It's the right thing to do, and, if we want continued food production from our land, it's the rational thing to do.

Senator JEPSEN. Bill, that's shocking to say the least; your testimony gets the attention of everyone. Do you feel that soil conservation practice should be voluntary or on a mandate basis?

Mr. BRUNE. I personally feel very strongly for the voluntary program and the agency I represent also has that as its policy. I am also very concerned that at our present rate, if we don't improve this, that the American public will be requiring some mandatory conservation. So it's up to us to do a better job or it may be forced upon us.

Senator JEPSEN. Your comments were similar to the comments made the first day of our hearing when a Waterloo-area farmer said, I'm paraphrasing, "live today like it may be your last day and farm your farm like you're going to be dependent on it and farming it forever." It has been said that education plus demonstration, and ideally a specific example of that man's own land, is the best way to move someone to action for soil conservation. Do you believe that to be so or do you have anything to add to that?

Mr. BRUNE. Well, that's true. We need to show people what can be done. We need to continue to do this because conservation practices as well as farming practices change. We need to keep up to date and as new practices come along you have to demonstrate those to people; farmers that are actually farming the land. A good example of this is no-till. It's not a real new practice, it's been on some limited acres for 10, 12 years. But only in the last 3 or 4 years has it come to the forefront by demonstrations carried out by State and Federal agencies and getting the landowner to adopt it, putting it on research farms, that it's benefits have been fully noted by the public. It is a practice now increasing very rapidly.

Senator **Jepsen**. What, if anything, has been done about having a soil conservation class included as a requirement for a high school diploma in Iowa: a class on that, at least one?

Mr. **Brune**. Well, in Senator Schwengel's legislation, Iowa 2000, this was addressed and there is a part of that law that says the districts will encourage conservation education, but it's not on a mandatory basis as I understand the law right now. But there has been discussion on this and I guess it's like all school curriculums, there is a lot of things that have to be done and they don't have time to do it all. Of course, I have a biased attitude, I think soil conservation should be No. 1.

Senator **Jepsen**. You would be in favor if that came about?

Mr. **Brune**. Very definitely. In an agriculture State like Iowa, I think soil conservation is the most important resource we have and if we don't have it, we have nothing. Like I said, I have a biased attitude on it, but I think it should be there.

Senator **Jepsen**. Susan?

Ms. **Snyder-Smith**. No questions.

Senator **Jepsen**. Mac?

Mr. **McCarthy**. No questions.

Senator **Jepsen**. Bill Brune, thank you very much.

At this time I would invite Mr. E. H. Anderson from the Iowa Production Credit Association from Mt. Pleasant to come forward. Welcome to the hearing, Mr. Anderson, and as quickly as you get settled you may proceed.

STATEMENT OF E. H. ANDERSON, VICE PRESIDENT, SOUTHEAST PRODUCTION CREDIT ASSOCIATION, MT. PLEASANT, IOWA

Mr. **Anderson**. Mr. Chairman and members of the subcommittee, I am Ed Anderson, vice president and credit supervisor of Southeast Iowa PCA headquartered in Mt. Pleasant, Iowa. Our farmer-owned lending cooperative has $40 million in short- and intermediate-term loans to 400 farmers in Henry, Lee, Des Moines, Washington, Louisa, Jefferson and Van Buren Counties.

Thank you for giving me the opportunity to present testimony about the availability of PCA financing for soil conservation. PCA's have been and will continue to be a dependable source of financing for credit worthy farmers. We make short-term loans—usually for 1 year—and intermediate-term loans for up to 7 years. Our loan programs can provide for almost all the needs of the farm family—operating and living expenses, livestock, machinery, facilities, and land improvements. This of course includes soil conservation practices.

Even though most of our loans are short term, we want our relationship with our farmer—borrowers to be long lasting. The goal of our financing programs is always to improve the profitability and well-being of the farmer and his family. PCA's know that financing investments in soil conservation is good for the future of our Nation as well as the farmers it directly benefits. We provide our own loan funds and work with Government programs and long-term lenders to best capitalize the investment in soil conservation. The point I am making here is that PCA's are aware of the need for soil conservation and we are willing to do all we can to finance it.

All of us are aware of the tremendous success of American agriculture. The root of this success lies in our Nation's land and water resources and the enterprise of the farmers who produce from them. Most farmers take great pride in what they have and what they do. They look for better ways to do things and want to improve what they have. For most, nothing exemplifies this better than how they care for their land. This goes beyond the desire to improve their own well-being. It also involves a recognition of the need to preserve the land for future generations. Using their own money, borrowed funds, and Government assistance, farmers have made a substantial investment in soil conservation. However, it is just a good start.

In southeast Iowa we have been blessed with good rains in 1980. A few of the rains have been downpours of up to 6 inches. They caused very severe soil erosion—even on land with little slope. Some terraces were washed out. Seeing the results of this kind of soil loss is shocking and certainly is evidence of the need to increase our efforts to conserve our land resources.

If farmers are so aware of the need for soil conservation why don't they proceed more rapidly? The answer is that there are limitations on what they are able to do—the most significant being money. It costs a lot of money for tiling, terracing, waterways, ponds, et cetera. Soil conservation is a long-term investment that may pay back very slowly. Because we work closely with farmers, we know that they are very concerned about the variations in prices they receive and the continuous increases in prices they pay. This has been especially so in 1980. Many are in a cash flow bind. This forces them to postpone longer term investments, including soil conservation. There is a wide range of farmers' financial positions, but the effect of the uncertainty of net farm income is that it tends to put investment in soil conservation on the "back burner." PCA financing programs are designed to help farmers through the economic peaks and valleys but there is a limit to what we and other lenders can do—obviously, loans have to be repaid.

Other limitations to farmers adopting soil conservation practices are primarily nonmonetary. These include management abilities, attitudes, and values. Some farmers don't know how to go about conserving their land or don't care to. They are in the minority but the problems they create may be more difficult to solve. In southeast Iowa we have land that is as good as that anywhere. We have some that is very marginal for crop production and very susceptible to soil erosion. Unfortunately, much of the marginal land is farmed by farmers who don't know how to manage it or who aren't concerned about the loss of soil. In other words, some of the land that is most severely eroded is in the hands of people who are unwilling or unable to do anything about it.

I commend this subcommittee on its interest and concern in soil conservation. I would like to submit some considerations to you as you evaluate the future role of our Government in soil conservation. First, the majority of farmers want to do all they can to conserve their land with their own financial resources. They don't want their profits to be guaranteed by the Government but they do expect that their Government will give them the opportunity to make reasonable profits. This must be an important consideration in all Government programs and policies relating to agriculture. A healthy agricultural economy is the best way to be assured that farmers will invest in soil conservation. Along with this, there should be increased tax credits or exemptions in the areas of both income and estate tax benefits for those who invest in soil conservation.

The implications of soil erosion are felt by all the American people and indeed the people of the world—both now and for future generations. Therefore, it seems wise for our Government to expand its programs of direct assistance for soil conservation. However, some qualifications should be put on these programs. Priority should be given to those practices that truly conserve soil and water and not merely bring additional land into production. Increased funds for matching grants and low-cost loans should be made available. There should be a screening of those who receive them to be sure that they go to those who can't provide their own funds or get them from conventional lenders. We do not want another inequitable situation such as that which occurred with the 3-percent SBA loan program.

The Government should increase its efforts to educate farmers and the general public on the need for soil conservation. It is especially important to try to reach those whose attitudes and values conflict with efforts to conserve our land and water resources.

The above normal soil erosion experienced by southeast Iowa farmers has resulted in renewed interest in minimum tillage. The Government should support research to improve this method of farming. Tax or other monetary incentives should be initiated to further the development and use of minimum tillage farming. Efforts in this area attack two problems—soil conservation and energy conservation.

An aspect of soil conservation that is receiving considerable attention is that of mandatory soil conservation programs. This is a very sensitive issue. It potentially sets up conflicts between those who don't want to be told what they have to do and the needs of society as a whole. Nonetheless, governmental units should address this problem in ways that will best serve the interests of all those involved.

Mr. Chairman, thank you again for the opportunity to share some of my observations and thoughts about soil conservation in my testimony before you and the subcommittee.

Senator JEPSEN. Thank you. That was very well done, Mr. Anderson. Your last comment is a natural lead-in for my standard question. You say nonetheless, governmental units should address this problem in ways that will best serve the interest of all those involved. So from that I couldn't really ascertain whether you favor voluntary or mandatory soil conservation practices.

Mr. ANDERSON. I favor voluntary practices. I qualify by saying that as long as the Government is doing all they can to create incentives for farmers to do what they can on their own on a voluntary basis. I think the point of creating or encouraging a profitable, healthy agriculture economy will do a lot to solve these problems. Educational programs reaching out to make people understand; both farmers and nonfarmers need it. I should add there should be occasional periodic review of the improvement or status of soil conservation and to make sure the satisfactory progress is being made.

Senator Jepsen. What criteria do you use if a young farmer comes to you for a loan, say to establish some terraces that are badly needed in his land that he's struggling to buy. Would he get a special break from the PCA?

Mr. Anderson. We have the same loan terms for all our borrowers, so it would be difficult to give a special break.

Senator Jepsen. That wasn't to either trap or to be sarcastic. I'm filling up the record to show that there is an awful lot of concern about young farmers' problems. There is a lot more concern than we have answers, but go ahead.

Mr. Anderson. Well, we first of all look, of course, at the young farmer's operation. We make sure he's got enough income to pay his bills and service whatever debts he has and provide for his family's living needs. If he has the financial ability to repay loans on soil conservation, we do give high priority to those kinds of investments. More so than in some other longer term investments he could make. So we do try to be very supportive to the needs of a young farmer as he tries to improve and conserve his land.

Senator Jepsen. You mentioned State tax credits. We've had tax incentives recommended for income tax. And interestingly enough, only once was incentives for property tax mentioned because that's on a limited basis. Today you recommended an estate tax credit. So now we've had all three recommended. I appreciate that remark. That gives us more latitude when looking at incentives. Tax incentives, when you don't have any income to pay tax on, doesn't mean much. But a tax incentive if you're paying property taxes on a property, a tax that's got to be paid, that means more. And for those who are sitting on many thousands of acres and are a little tight with the bucks which is one of the reasons they have got thousands of acres—an estate tax credit to conserve land just might be something very attractive.

Susan, do you have any questions?

Ms. Snyder-Smith. No questions.

Senator Jepsen. Mac?

Mr. McCarthy. Just one. Mr. Anderson, as you're probably aware there is a farm credit bill that's still pending in Congress. One element of the House version would provide for an extension of PCA loans for up to 10 years. Do you think that something like this will help farmers, as far as lending money for soil conservation is concerned?

Mr. Anderson. It surely would. The additional 3 years of repayment principal of a long—loan of intermediate- or long-term nature would be very beneficial. It would help the farmer if he is able to repay the loan over 10 years rather than 7. As you are suggesting, we are limited to law by a maximum of 7 years, so we're very supportive of that and what it can do for our farm borrowers.

Mr. McCarthy. Thank you.

Senator Jepsen. Thank you very much, Mr. Anderson.

Here is another person who needs no introduction to people in the soil conservation circles. I'd like to welcome Larry Vance from the Department of Soil Conservation of Des Moines, Iowa. Larry, thank you for all of your help in setting up these hearings and we look forward to hearing what you have to say now after you've been tramping around with us for 3 days. Larry, you may proceed.

STATEMENT OF LARRY VANCE, DIRECTOR, IOWA DEPARTMENT OF SOIL CONSERVATION, DES MOINES, IOWA

Mr. VANCE. Senator Jepsen, I am very pleased to have the opportunity to present some comments in behalf of the State, both for the Department of Soil Conservation and for the Department of Environmental Quality. I appreciate the focus that you have caused to happen again in relation to our soil erosion problems in the State of Iowa. This type of press coverage I think is very essential as well as the interest of local pepole. Too often, in fact just a few weeks ago, many farmers were nearly devastated with the worst soil erosion in the State of Iowa in the past 30 years. Yet we have already been able to smooth that land with large equipment. We've been able now to see a new green canopy cover the surface of that land and therefore already began to grow complacent so I think it's very timely in terms of the opportunity that you bring to us to focus on soil conservation.

I would like to direct my comments toward the local, State, and Federal partnership in the soil and water conservation effort. My immediate concern is one of continued commitment to these programs at the Federal level. I believe some review should be made of the priority system and Federal funding support to the Soil Conservation Service (SCS), Agricultural Stabilization and Conservation Service (ASCS), Cooperative Extension Service (CES), Agriculture Experiment Stations, and Agricultural Research Service (ARS). In addition to the need for increased USDA support, the long-requested soil tilth laboratory at Iowa State University, the Four Mile Creek research project, and the unfunded rural clean water program requests in Iowa deserve your immediate attention.

We have a serious problem with soil erosion. It depletes the soil for future generations and the resulting sediment is our Nation's No. 1 water pollutant by volume. We are exporting two bushels of soil for every bushel of corn produced. In addition, we need to be aware of the loss of cropland to another source—conversion to nonagricultural uses.

Recently completed soil resource inventories created a feeling of anxiety regarding the future. In Iowa alone, even with the degree of State and county support, we are accomplishing only 20 percent of the needed soil conservation work which should be done annually if we are to maintain adequate crop production. In 100 years of farming in Iowa we have lost one-half of our valuable topsoil resource. If this continues, the ability to efficiently produce food will be lost. Eroded soils lack the organic matter, pH, and moisture properties to allow chemicals to break down and work. They don't retain moisture levels needed to achieve high yields. More energy and horsepower inputs are necessary to till soils with higher clay content. Petroleum-based fertilizer needs are increased to replace lost natural fertility. Resulting sedimentation and other nonpoint source pollutants washed from the land depreciate water quality. It costs more to purify water. In addition, we must remove sediment from drainage channels, flood prevention structures, and water supply reservoirs to regain capacity we once had. This costs more tax dollars to correct the problem than proper land treatment would have, and we have ruined the soil in the process.

Let's put this in context we understand. We lose annually 261 million tons of soil in Iowa. That's an average of 9.9 tons per acre per year. To visualize this, it is one-twelfth of an inch, which is not enough to create a concern. Yet, that 9.9 tons would nearly fill two dump trucks from each acre annually. I read a newspaper ad for soil at $60 per truck load, and at two truck loads per acre, the loss is worth $120 per acre. K-Mart sells a 50-pound bag of topsoil for $1.49; that's $60 per ton or $600 per acre per year lost.

Soil scientists estimate the nutrient value of a ton of topsoil at $5, which would be $50 loss per acre annually. Even with the cheapest cost of soil loss per ton, $5 per ton, times the Iowa annual loss of 261 million tons, this equals $1,305 million. Now, if a segment of our business economy lost this much as an annual average, there would be a big concern, possibly having disaster aid low-interest loans, special Government advisers, et cetera. And, that figure doesn't include the cost of removing the unwanted sediment. This, Senator, is one way to justify what the value of Federal efforts could be to control erosion.

A 1978 study by Professors Cory and Timmons reported in the Journal of Soil and Water Conservation projected soil erosion losses in 12 Corn Belt States under two production levels. They compared continuing historical production trends and increased production trends to meet increased export demands. Projections for 1985 revealed that erosion losses would increase 39 percent on the average in the 12 States and 68 percent in Iowa, if we continue to follow historical production trends. However, if production is to be increased to meet export demands, further row crop intensification and farming of erosion-prone soils will increase erosion losses to 72 percent in the 12 States; and Iowa's erosion losses are projected to increase to 102 percent. We must keep in mind that most of our future cropland area will come from sloping land. Soil conservationists tell us that some fragile lands can be depleted in 20 years. Other lands need improved drainage if they are to become more productive. In the emphasis for all-out production, reducing cropland wetness is the fastest way to increase yields.

Although we currently enjoy a productivity balance, population estimates indicate that we will not enjoy the surplus in the foreseeable future. We have been lulled into a false sense of security by full grain bins and technology increases which have masked erosion losses.

We, as a nation, need to adopt new policies to remove the instability from agriculture. Farmers who cannot make a profit, cannot invest in soil conservation. Farmers who are unsure of their future in agriculture, are unwilling to make long-term soil conservation investments.

USDA policies should be reexamined. Assistance to drainage is restricted, yet technical and financial assistance to help farmers row crop hillside land is encouraged. The $3,500 ASCS cost-share limit should be reexamined since several thousand dollars can be approved for grain bins or irrigation systems.

I would ask you to inform your committee of our soil and water management program needs and to urge a stronger commitment from the Federal Government in soil conservation and non-point-source pollution control programs. The immediate- and long-range efforts of your committee's actions are important. I believe the ability to produce food in our country and for food-deficient nations deserves a higher national priority than the current 2 percent of the Federal budget.

The Federal budget for Agricultural Stabilization and Conservation Service (ASCS) cost share has remained at $190 million for the past 10 years, yet inflation has reduced the program's buying power.

The proposed Soil Conservation Service (SCS) budget increase for fiscal year 1980 will not be sufficient to absorb the fiscal year 1979 pay increase, offset inflation, and handle a possible fiscal year 1980 pay increase. As a result of this, plus personnel ceilings imposed from time to time on the agency and a current replacement policy allowing only 4 of every 10 vacancies to be filled, will mean 500 less positions to provide technical assistance to farmers than were available in fiscal year 1979. It will get worse next year unless something changes.

When a farmer is ready to spend disposable income on soil conservation, availability of cost-share funds and timeliness of a soil conservation technician being available to assist in design and practice installation can mean the difference between whether the soil-saving practice is installed or not.

The lack of adequate funding for adequate agricultural research should be reviewed by your committee. We need to know more about the spinoffs from increased chemical use, increased amount of crop residue left on the soil surface, and aspects of intensive row cropping on soil tilth. Agriculture Experiment Station and Cooperative Extension Service soil conservation programs are seriously underfunded; 50 percent of Iowa farmland is owned by absentee owners. We need new education programs to work with these people.

The Four Mile Creek research project in Tama County, Iowa, has been jeopardized by lack of funding. With farmers ready to do the various tillage experiments and with research instruments in place, funding is in question as to enable the research to be completed. The land treatment is approved for funding through ASCS. We will miss a golden opportunity on research unless funds are restored for the research proposed.

It seems somewhat of a paradox to hear of the lack of Federal commitment to programs which will sustain our Nation's strength as a food producer, will reduce air and water pollution, and will conserve nutrients and energy, when we have a strong showing of public support for the program as demonstrated by the respondents in the Resource Conservation Act, the farmer opinion poll conducted by Wallaces Farmer, and the nationwide support revealed by the January 1980 Louis Harris Poll. In fact, the Harris Poll sampled nearly twice the number of people interviewed in making Presidential polls, and the results were quite revealing. The pollsters found a strong public concern regarding shortages of food and good land for producing food. A 77-percent majority felt we have not yet reached the point in soil and water conservation efforts where we should be more concerned about holding down costs than completing the work that remains to be done. RCA respondents listed soil conservation as their overwhelming concern in resource management.

In Iowa we feel a strong sense of responsibility for soil conservation. The State's agricultural economy depends on the strength of our soil. We are aware of the consequences of a lack of action. Our soils will become depleted and our aquifers will become polluted or dry. We don't want to forfeit this right for future generations.

Iowa has long been recognized for its leadership in soil conservation. We were the first State to develop erosion control legislation and to establish soil loss limits as a benchmark for erosion control programs. We lead the Nation in developing a cost-share program which has now received over $30 million in State funds to effectively lower the cost of installing expensive soil conservation measures such as terraces. Iowa is investing funds to accelerate the soil survey program and watershed planning and is providing technical and clerical support to soil conservation districts. We have developed a nonpoint source pollution control program as part of the State's water quality management planning process, which has been accepted by the U.S. Environmental Protection Agency. Our efforts are not only a State effort, since last year 26 counties made first-time-ever financial appropriations to soil conservation districts with over one-half million dollars of funds in total. Today, more than ever before, soil conservation districts are in a leadership position.

We often fail to realize the impact of Iowa's program until we go out of State to multistate leadership development meetings and hear our counterparts review plans to seek similar legislative authorities and who express their hopes of initiating programs to identify fragile soil areas and high-impact water areas and to priortize water quality management objectives, as Iowa has done.

Iowa's RCA grant served as a springboard for new program dimensions. Our program has again received nationwide attention as the Iowa Soil 2000 program was developed last year. This program establishes a 20-year master plan for reducing soil losses to a nondepleting level by the end of the century. Iowa is the only State in the Nation which has developed such a policy statement. The conservation folder concept, as a landowner contact and awareness device for motivating landowners to initiate soil and water management programs, is a first-of-its-kind attempt which was started by the Washington County Soil Conservation District Commissioners. The recently developed Iowa till program and wind erosion control incentive program are also first-in-the-Nation State incentive programs encouraging crop residue management as an alternative to cost intensive structural erosion control practices.

My reason for making the comments about Iowa's program support is as follows:

The State of Iowa's soil management and water quality programs are not an average situation. Iowa's input in this effort at the State and county levels leads the Nation in non-Federal support dollars. Although $12.8 million of Iowa taxpayer funds are used to support these programs, there is no recognition of this effort in allocating Federal assistance dollars to the State. In fact, Iowa ranks eighth in receipt of Federal appropriations for total SCS obligations. We find that hard to understand when we consider that Iowa leads the Nation in food production and also has the highest total tonnage erosion losses in the Nation. Perhaps some review of how these policies are made is in order. The concept of regionalizing USDA assistance by erosion needs versus the current method needs examination.

Iowa is in its 40th year of working with soil conservation district commissioners who serve as local representatives in our 100 soil con servation districts to provide grassroots leadership in evaluating resource needs, developing program goals and objectives, and establishing priorities for agency assistance programs. These are good people, dedicated to improving their community, who donate many days of their time annually in the soil conservation effort. To complement this group, Iowa is very fortunate to receive the voluntary leadership of a group of people in each of our six major river basins serving as conservancy district advisory committees.

Commissioners and advisory committee members receive no per diem for their time and often don't get all of their expenses reimbursed. They work voluntarily because they believe in the programs. This role of local leadership should be kept in the forefront of your committee's deliberations.

The State soil conservation committee and the statewide policy advisory committee, who serve the department of soil conservation and department of environmental quality respectively, establish State policy in our soil and water conservation and management programs. Iowa has a structure of State and local leadership that can deliver when it comes to soil and water conservation program development and management.

I recommend that your subcommittee give consideration for increased State and local roles in soil conservation and water quality program management. The potential of grants to States, such as the rural clean water program, the clean lakes program, and Resource Conservation Act, has already proven to be workable. Further refinements of these programs to allow State and local program flexibility and administration is desirable. Increased appropriations for grants such as these are needed. Consideration of State grant programs to allow more local direction holds great potential for strengthening the Federal, State, and local partnership.

Iowa's soil conservation program has benefited from Federal grants under RCA, RCWP, and CLP. Not all States are ready, but we could serve as a pilot State for development of additional grant programs.

We are entering a new era for soil conservation. This is a time for responsible action and renewed commitment, not blind optimism. We have gone through the decade of the 1970's as an awakening regarding environmental ethic. We are aware of our resource problems and needs. We have survived a one-two punch of soaring interest rates and falling commodity prices, but farmers stayed in there and came out with a new savvy on reduced tillage.

Iowa's soil conservation districts have experience and proven their leadership ability. Developing a viable 1981 farm bill will provide an opportunity to renew the Federal commitment to the soil and water conservation program partnership with State and local governments.

One of the roots of the funding problem at the Federal level is that appropriations for soil conservation are discretionary, while items such as defense and welfare are not. As a result, soil conservation programs are an easy target for budget cutting; and the clientele served are not in a sufficient number to carry political clout.

A way to assure a continuation of adequate funding, such as a dedicated revenue, is needed to allow development of long-term soil and water management plans. The hiring freeze, personnel ceilings game provides a poor excuse for inadequate budgets. Insufficient cost share and technical assistance can often undo what USDA programs have accomplished over many years.

In closing, I will answer your question, do I favor voluntary or mandatory soil conservation?

The department of soil conservation's responsibility is to provide counsel to land users and to advise them of alternative soil and water management programs. To do so we needed a bottom line, a benchmark to tell farmers what soil loss limits were acceptable.

After 40 years, we found providing technical and cost-share assistance did not assure that we could get away from the leisurely rate of accomplishing one-fifth of the needed annual rate of accomplishment. However, before mandating, we proposed an early warning system, a contract and awareness system, added cost share and technical assistance, and computer digitization of soils to accelerate planning, summer construction incentives, and group demonstration and land treatment incentives as part of Iowa Soil 2000. We wanted to see if added technical, educational, and financial incentives would work but had the foresight to tell landowners when possible mandatory compliance may be necessary.

Our experience with Iowa's adjacent property owner complaint system tells us that mandatory action is needed for some people, but the deterent effect of a law and a landowner's peer pressure from neighbors and local commissioners, as enforcers, has resulted in all but 60 of 600 complaint cases since 1973 being resolved before an administrative order was needed. Of these, 52 were resolved by 75 percent cost share and administrative order by the soil conservation district, while 6 went to court. We don't know the deterent effect on people who acted since there was a law and didn't want to get in trouble. We favor a green ticket approach if possible, but don't believe a farmer has a right to destroy the land or damage his neighbor. We believe a farmer should not be forced without technical and cost-share assistance. However, when all attempts fail, a mandatory program is needed to deal with some bad actors, or why expect others to volunteer in the name of stewardship.

Senator JEPSEN. Thank you very much and do you favor voluntary or mandated soil conservation practices?

Mr. VANCE. I knew you were going to ask this so I came prepared. If you'll allow me. It's not popular to say what perhaps is necessary and when we talk about mandatory, everyone tends to shy away. So I'll answer you in perhaps a little different than some have done. Our job is to counsel the landowners. And with this counsel to advise him of his alternatives. We have to do this in a responsible manner and we have set in Iowa a bottom line for soil limits and a benchmark for landowners to achieve. Providing technical and cost share assistance does not assure us he will ever achieve needed soil conservation treatment, and especially that we will get it any faster than our leisurely rate of currently dealing with that soil resource on a voluntary manner. We only have one-fifth of the annual rate of needed accomplishment being accomplished. If mandatory is to be considered, I would first like to see what could be done if enough adequate cost share and technical assistance can be made available. We need to fully explore the extent of what incentives can be given first. But I do believe and I know the State of Iowa has had the foresight to be prepared. They have written legislation; it's an early warning system at present, but it has told the landowner not only how much his soil loss limit should be reduced to, but by when. And I think this is something that will show us some direction in the future. In answer to your question, you're really asking who will control agriculture.

If we fail to take a responsible course of action, other groups who are setting on the sidelines and ready, perhaps are willing to take a more aggressive approach than agriculture itself in controlling and reducing erosion to desirable rates. I think the thing I appreciate, the way it has worked, is that we have no people in uniforms and shiny buttons. They're local people, they're dedicated to the task and we're doing our very best. Perhaps we still need an underlying authority, though, to deal with the percent of the people who will not deal in terms of voluntary actions. Currently, law establishes soil loss limits to be achieved and by when. It provides a time frame for additional education, technical assistance and cost share. It's an early warning system of notices, inspections, conservation folder and plans before any action is mandated. It provides a mechanism which allows a landowner to protect himself from problems created by his neighbor at present through a complaint procedure. We favor the green ticket approach, that of recognizing farmers that are doing a good job of soil conservation. We don't believe you have a right to damage your neighbor or to destroy the resource, though. Our experience at this point has dealt with over 600 complaints in our current authority under Iowa law. We have found that less than 60 have resulted in district court orders. That means that 500 plus have been dealt with from the soil district commissioners, from their neighbors on a local basis.

The 60 that did go somewhere have been primarily that of agriculture, although, 9 were nonagricultural in sediment complaint situations. Of that group, of the nearly 60, only 6 have gone to a court order. So I think our procedure is effective. It allows work at the local level. It is an underlying situation that does prevent damage to the resource and damage to the neighbor.

Senator **JEPSEN**. So, in certain circumstances, you believe mandated conservation may be necessary?

Mr. **VANCE**. Yes.

Senator **JEPSEN**. I have a follow-up question. You favor that on a State level. How would you feel about Federal mandated conservation?

Mr. **VANCE**. I think I would feel a lot different on the Federal level, simply from its standpoint of the distance from the people that are affected. I think when we keep it on the local level, dealing with their neighbors, it's a more accepted fashion than that shiny Government car coming down the driveway.

Senator **JEPSEN**. Susan?

Ms. **SNYDER-SMITH**. You answered every question I had thought of already.

Mr. **MCCARTHY**. No questions. Thank you.

Senator **Jepsen**. Thank you very much. At this time I would introduce and invite to come forward Donald Dietzman from Keosauqua. Did I pronounce that last name correctly?

Mr. **Dietzman**. Yes.

Senator **Jepsen**. All right. Mr. Dietzman, you may proceed and welcome.

STATEMENT OF DONALD DIETZMAN, KEOSAUQUA, IOWA

Mr. **Dietzman**. My name is Donald Dietzman and I'm a commissioner; I guess a farmer in Van Buren County, Iowa. And I'm here and I'm glad to have this honor to speak in front of you, Mr. Jepsen, and committee members. I'm here in regards to watershed which I've been wanting to see done for 10 years. And it has been in motion for 20 years. This is the Indian Creek-Van Buren Watershed which was requested in January of 1964.

The Indian Creek-Van Buren Watershed was requested in January 1964. The project is sponsored by the Van Buren County Soil Conservation District, Van Buren County Board of Supervisors, Van Buren County Conservation Board, city of Cantril, city of Keosauqua, Van Buren County Rural Water Association, and Iowa Conservation Commission.

The Indian Creek-Van Buren Watershed is located in Van Buren County in southeastern Iowa, with a minor portion of its drainage coming from Clark County in northeast Missouri. The watershed is roughly 20 miles long with an average width of 4 miles and covers 73.8 square miles. The total watershed is about 47,200 acres. About 3,500 acres lie in Missouri which comprises the most southerly portion of the watershed.

The major watershed problem is flooding along Indian Creek. Inundation from the 100-year flood event is estimated at 1,511 acres. The average annual flooding covers 1,850 acres.

The project will include the purposes of watershed protection, flood prevention, water supply to city and rural residents in Van Buren County, and fish and wildlife development.

Measures include seven singly purpose structures for flood prevention, two cooperative road structures and one multiple-purpose structure of approximately 574 acres for flood prevention, water supply, and fish and wildlife development.

Benefits will be derived from a reduction in damages from flooding to agricultural land, roads, bridges, and farm fences. The multiple-purpose site will also provide a dependable water supply and an area for hunting and fishing to residents of Van Buren County.

The USDA Soil Conservation Service plans to have the work plan ready for departmental review after July 1, 1980. After departmental review it still has to go to OMB then to Congress. OMB may take 1 to 6 months to review it. Congress traditionally takes 3 months to 2 years in approving projects.

People have worked on this project for 20 years trying to satisfy all the different whims of the Federal Government. Every year the project has been put off has meant new regulations being passed. Environmental standards have been getting tougher. We have to worry about such things as Indiana bats in Iowa.

What we don't want to see is the project sitting in Washington, D.C., with OMB or Congress, without getting it's attention in the proper and fair amount of time. We have done everything SCS has ever requested us to do. Now we are asking that you see to it that projects such as these do not get layed aside on some bureaucrats desk.

Do you realize how many people have died, moved away, sold their farms, or retired in the last 20 years since this project was started? There are some still around that are 60 to 70 years old, that hope to see these dams built before they die. They don't want to see all the time and effort they spent the last 20 years go for nothing.

In addition to all the conservation benefits a project such as this offers, it also increases employment and gives an economic boost to a low income, sparely populated Van Buren County. Van Buren County has much to offer in the field of tourism and historic sites. With a 574 acre lake it can draw even more people to the area.

When building a lake of this size it brings up another problem. How in the world can the people of Van Buren County come up with $1,000,000 for their share? It's all we can do to fund money to maintain it. We can possibly come up with $200,000 but that falls short of what is needed. Why can't the Federal Government fund higher percentages for projects in low-populated, low-income counties? Standards of living would be greatly improved with this project. With inflation as it is and construction costs as high as they are it appears to me the Government should help more.

Gentleman, when you go back to Washington, D.C., and meet in committee again, I sincerely hope you remember the watershed program and in particular Indian Creek-Van Buren. Consider the benefits to society as awhole and let your conscious be your guide.

Thank you!

Senator JEPSEN. Thank you, Mr. Dietzman, very well done. Do you feel conservation practices should be voluntary or should be mandated?

Mr. DIETZMAN. Well, I'm a commissioner. We do—as I've heard in the past here that we do have laws now. The only thing is if you have mandatory laws, the State or the Government will have to come up with more money to enforce them. Therefore, I can't see why we couldn't have more money now to put these practices into shape now rather than waiting until the Government takes over. It's my understanding, reading an article about a year ago—I think in the Des Moines paper—that I suppose it was a mandatory law that the city do something with their sewage in Des Moines, but they got more money—it's a grant to fix the sewage in Des Moines—than the ASC office got to do all the practices in the whole United States and I just don't see why we can't have more of the money now if that's what it's going to take to do the job.

Senator JEPSEN. I understand you to say, in paraphrasing, that you would recommend that we have a voluntary approach, with more money provided. Because if in fact we should go to a mandatory approach, then they also are going to have to pay for it?

Mr. DIETZMAN. That's right.

Senator JEPSEN. So why not have a little more money and encourage voluntary?

Mr. **Dietzman**. That's right and perhaps a rotation program. If we don't have money to build all of the terracing and the high expensive practices, perhaps a rotation program with a tax incentive and maybe subsidize the young farmer till he gets going on that basis.

Senator **Jepsen**. Susan, do you have any questions?

Ms. **Snyder-Smith**. You said this project was requested in 1964. In what stage has it been the last 16 years?

Mr. **Dietzman**. That's a good question. I'd like to have made more comments, but I didn't think I should. I don't know whether it's political or conservation, but we have been put off for some time on this program. Ever since I've been a commissioner we have new things come up every year and as I said, environmental has really slowed us down and I think and I believe that in the last couple 3 years. I understand now the work plan is in Washington now or has been sent this week, so we're gung ho and this area has been above the main structure, the big multiple structure and everything is in the required practices like 75 percent, 80 percent of the land is treated in conservation practice, has been for a number of years. We've been sitting here—and I'm also the mayor of Keosauqua.

The water supply in Van Buren County is very bad. People are using water—farmers are using water that would not pass—90 percent of them wouldn't even pass the State specifications. I happen to know that because I sell water equipment and I know what the wells are like in Van Buren County. We are in great need for water and it would do a—help us a great deal in the economy in Van Buren County.

Senator **Jepsen**. Mac?

Mr. **McCarthy**. Thank you, Senator, but I have no questions.

Senator **Jepsen**. Thank you very much, Mr. Dietzman.

I'd like to now to introduce James Hawkins and invite Jim to come forward and present his testimony. Jim is from Argyle, Iowa. Welcome and you may proceed.

STATEMENT OF JAMES HAWKINS, ARGYLE, IOWA

Mr. **Hawkins**. Senator Jepsen, members of the hearing panel, the cause which has brought us together is, in my judgment, the single most important problem facing the American people. Its magnitude—with all the ramifications on life and living—transcends the concerns for national defense and the economic issues of the day.

The rate at which we have abused, wasted, polluted, and destroyed the renewable and rechargeable resources of soil and water borders on a national disgrace. I feel deeply about them. I pray that what I have to present may be found to be useful to those who have the weighty responsibility to make decisions concerning their conservation and development.

Soil erosion today is as bad or worse than it was in the 1930's. I have been involved in Iowa soil conservation for 30 years and I tell you quite frankly we're walking in place. Our annual rate of accomplishment for soil erosion practices is 20 percent of the need. We must have a renewed commitment at all levels of government, by the land users, and by the private sector that will place a high priority on accelerating the installation of best management practices, adequately financed by cost-share funding.

Before getting into specifics permit me to list a number of factors which I believe hinder the implementation of the conservation program.

The inconsistent and contradictory action of governmental policy, rules, and regulations.

The failure of governmental agencies which use land to coordinate their programs and policies.

The continued use of the "shotgun approach" in the dispensing of Federal conservation dollars rather than target those dollars on the land most vulnerable to erosion.

The lack of a bifocal vision within the realms of those who render decisions and make policy. This causes us to react to a crisis situation rather than plan for solutions to long-term problems.

The failure to enact a national land use policy to preserve the availability and productivity of agricultural land for future generations to use.

Reduction in funds to research and education.

The failure, at this point, to effectively use education as a change agent to bring about a social consciousness which will extend our concern to the relationships between man and the total community of life.

The promotion of a cheap food policy as a political expedient has fostered the formation of large corporate farms, descimated the family farm, established a trend to continuous row cropping, and made it virtually impossible for a young couple to get started in farming.

The continued inclination to hold technical assistance to a bare minimum level.

The lack of national conservation goals which adversely affect the coordination of existing programs.

In the above merit study and evaluation, perhaps these specifics may be helpful in the implementation of a rejuvenated, restructured national conservation policy:

Use of the "red ticket" or cross compliance approach which would require farmers to use specific conservation methods to qualify for price supports, storage facility loans, FmHA loans, disaster loans, et cetera.

Phase in regulations over 20 years requiring farmers to adopt specific conservation practices or face monetary penalties. The "Iowa 2000" legislation is a good example.

Provide additional incentives in the form of low interest loans, tax credits for soil conservation improvements, long-term soil conservation contracts, allow deduction of crop income from land that is set aside.

Use the "green ticket" or conservation performance bonus. Those who participated would receive higher crop price supports, more cost sharing, lower interest rates on loans.

Time is running out and I haven't touched on water and forestry. In closing I would, though, like to leave these strong recommendations:

> Never permit soil and water conservation to become a political expedient. It is not a Republican or a Democrat issue. It is an American problem, a serious one, and must be dealt with in the American way—by enlightened effort and concentrated energy—working together.
>
> I believe that all the talking, all the study, all the posturing that needs to be done has been done. We have the tools, the knowledge, and the expertise to get the job done. It is time for action! I urge, Senator Jepsen, that you and Senator Culver get together, pool your information, and give the American people a national conservation policy and program that will adequately protect our indispensable soil and water resources.
>
> I respectfully suggest, Senator Jepsen, that as you deliberate and agonize over decisions, you rely upon the committed and dedicated men and women of the Soil Conservation Service for counsel and guidance. They serve no special interest other than the cause of stewardship.
>
> I believe, too, that the finalized report of the Resource Conservation Act of 1977, the Global 2000 Report to the President, and the Iowa 2000 would be very useful documents for study and reference.
>
> I would urge that we proceed with caution in the promotion of farm exports until such time that we bring soil loss in balance with soil production. Every bushel that is exported is also exporting our soil and history reflects the tragic consequences of that kind of policy.

I share with Dr. Gerald O. Barney, chairman of the "Global 2000" study, his concern as to whether democracy as a form of government can put aside its quarrels, its controversy, its selfishness, its emphasis upon materialism and bring to bear the change in attitude and values and the resolve needed to meet the challenges which lie ahead.

Gentlemen, the task must be done! We dare not allow complacency, apathy, inaction, and lack of concern to inflict upon our children a future fraught with shortages of nutritious food, a polluted environment, and a subsistence standard of living, we can slow down erosion, we can guide nonagricultural growth and development. We can conserve the water supplies. We can meet the requirements for food at home and abroad. We can if we will.

Senator JEPSEN. Very well done. You are very persuasive and it's obvious that that is because you really believe in what you say.

Mr. HAWKINS. Absolutely.

Senator JEPSEN. Do you feel conservation practices should be voluntary or on a mandatory basis? And if you want to separate Federal and State mandatory practices, since we already are way ahead of the rest of the country in Iowa, do you think it should be voluntary or federally mandated?

Mr. HAWKINS. There is no question—and I don't think there is anyone who would dispute—that the art of persuasion is better than the club of enforcement. However, I think we are at this point in time skirting a very thin line as to whether a man has a right to destroy his land or the public interest in that land. And so I'll pass the ball back to you and say in effect that as you conclude these hearings and the information is analyzed and the immensity of the problem is determined, then it will be your weighted responsibility to think in terms of the common good and the general welfare of all of our people. Now, I will say that if I were in your position and I had all of this evidence laid out before me, I would not hesitate if it required mandatory; that's what it would be.

I think we are in a desperate situation as we look at this global 2000 study and what it portends for our future, unless we wake up and do something about it. And so I would not hesitate to make it mandatory, but I would rather direct it down through the States much like we have it here in Iowa. As one person commented, Washington is a far distance from the problems. I think Iowa is doing a terrific job and our people should be highly commended. I would hope they might be used as a model.

Senator JEPSEN. I predict that they will be.

Susan, do you have any questions?

Ms. SNYDER-SMITH. No questions.

Senator JEPSEN. Mac?

Mr. McCARTHY. None, sir.

Senator JEPSEN. Thank you very much. Again, very well done.

I'd like to introduce and invite Ollie Kaldenberg to come forward and present testimony. I would announce we will take a 5-minute break after this testimony. Welcome, Mr. Kaldenberg; he is from Albia, Iowa. Welcome, you may proceed.

STATEMENT OF OLLIE KALDENBERG, CHAIRMAN, MONROE COUNTY SOIL CONSERVATION DISTRICT, ALBIA, IOWA

Mr. KALDENBERG. Thank you, Senator Jepsen, and fellow members.

My name is Ollie Kaldenberg. I'm chairman of the Monroe County Soil Conservation District which is located in south central Iowa. I'm here today in behalf of my fellow commissioners and the people of Monroe County to say a few words in the interests of soil conservation.

When our country was settled, our forefathers had 18 inches of topsoil to use for production of their crops. Now, a little over 200 years later, we have less than half the original top soil, about 8 inches. And surprisingly enough this embarrassing loss didn't take 200 years to happen. The majority has occurred within our lifetime. Yes, that's right, in the last 50 years we've managed to destroy more than half of our most valued natural resource. What are we going to do when it is all gone?

Well, we've all heard the cry for soil conservation, it's in the news every day, and no one disputes the fact that it occurs in excess of what can be tolerated. Yet, we continue to let it happen. We've become a wasteful nation.

There are bridges over 800 years old in England that are still being used today. Here in Iowa our engineers design bridges to last 50 years. If we are lucky our cars won't start rusting until after they are 3 years old, and when they do we buy another one and tow the old one away. Apparently there must be unending supplies of everything.

We treat our government the same way. Instead of improving existing programs we create new ones. There must have been a million of them in the last 5 years. EPA, DEQ, RCA, CVRSA, I'm surprised they don't have an EIEIO, at least we farmers could relate to that one. In other words we are getting tired of all the costly new programs that require a significant amount of our unpaid time that results in some plan that will never be implemented.

Not all new programs are bad, but let's put an end to those that will not directly result in conservation on the land in a short period of time. Time is the important factor here and we don't have any waste. In 1979, farmers over the Nation cropped over 50 million acres more land than they did 10 years earlier, and in 1980, crop plantings were up another 10–12 million acres. These acres were previously used for pasture and hay production and are subject to severe erosion unless kept under grass cover.

In Monroe County we are losing 1.2 inches of top soil every 12 years. We believe we cannot go past 20 years without significantly affecting the productive capability of the soil under the current erosion rates.

We need adequate conservation protection and we need it fast.

I propose that we improve upon and accelerate existing programs and agencies such as the P.L. 566 watershed program, R.C. & D. and ASCS cost sharing, State cost sharing and SCS, by providing adequate funding and staffing to meet the accelerated rate necessary to save our land.

Senator **Jepsen**. We'll have to find out who your speech writer is, too. It's very well done, very interesting and very well presented. Do you feel that soil conservation practices should be voluntary or mandated?

Mr. **Kaldenberg**. Well, at the present time I would lean toward voluntary. I've seen mandating even in the State of Iowa and have had a little experience in one of our counties in the State of Iowa mandating and it's bogged down for the last 2 or 3 years and the commissioners feel as if they're bein laughed at. I think voluntary is the way to go first and if it won't go that way, then try mandatory.

Senator **Jepsen**. Your point that while there are bridges over 800 years old in England still being used the United States is close to being a throwaway society for practically everything causes some very stimulated thinking on my part about how we're throwing away our soil by lack of inaction. I compliment you on that analysis. It does drive home the point.

Susan?

Ms. **Snyder-Smith**. No questions.

Senator **Jepsen**. Mac?

Mr. **McCarthy**. No questions.

Senator **Jepsen**. At this time we will recess for 5 minutes and then reconvene. And when we do, Mr. Don Johnson from Fairfield will be on deck.

[Thereupon, a short recess was taken.]

Senator **Jepsen**. This hearing will come to order, please. At this time I'm pleased to welcome Don Johnson of Fairfield, Iowa. Don is an old friend from years back. He used to come up and give me counsel and instruction when I was Lieutenant Governor once in awhile. Don, you may proceed.

STATEMENT OF DON JOHNSON, FAIRFIELD, IOWA

Mr. Johnson. Thank you, Senator Jepsen, and thanks for coming to Fairfield. And members of your committee, we welcome you here very much. I'm going to speak this morning as a farmer. I live here in the local area so it will be easy to speak in this respect.

Senator Jepsen, we are pleased you chose Fairfield for this very important hearing. We in southeast Iowa are very much interested in soil and water conservation and caring for the environment in such ways to make it useful and productive for food, fiber, and recreation.

I am actively engaged in farming with son Doug in a livestock and grain farm operation. May I share some of my experiences regarding conservation.

When I started farming in the early 1940's, I decided conserving the soil and controlling the water were an important part of a farming operation. At that time I asked for help from the soil conservation district to establish contouring on the farm and working a farm plan.

From that date forward I've experienced farming with terraces constructed with farm equipment. Now we are using parallel terraces with tile outlets for control of soil erosion. Also on our farm we are using no-till for planting 80 acres of corn this year. We also use minimum till which leaves 50 percent or more residue on the soil. Also we do some conventional tillage.

This spring and summer we have experienced extremely heavy rains which do move tons of soil if no erosion control methods are used. The no-till corn, which is on hill land and planted on the contour, experienced very little erosion, and some of these hills have been in corn 3 consecutive years. Fuel consumption on the no-till corn was one quart diesel per acre. The fertilizer and herbicide was custom applied and I would estimate 1 quart of fuel for this application. No other fuel will be used until harvest. No-till farming could save up to 10 million gallons of fuel in southeast Iowa each year.

On the minimum till, I do not have an accurate record of the fuel consumption. However, due to weather conditions we did make four trips over the soil before planting—chisel plow, field cultivator, disk and cultimulcher. These trips plus planting would use about 5 gallons diesel fuel per acre.

With the minimum tillage and the same heavy rains, we experienced some erosion. However, it was well within the 5-ton loss limit for this type soil. If this minimum tillage had been plow, disk and plant, these same heavy rains could have experienced 20 ton or more soil loss per acre.

Through the use of parallel tile outlet terraces soil loss is held to a minimum—possibly less than 3 tons per acre. These terraces are engineered and supervised during construction by the Soil Conservation Service.

I have briefly tried to tell the experience I've had with these various conservation measures. Much, much more could be said.

My interest in soil and water conservation made it possible to serve Jefferson County Soil Conservation District as a commissioner for 12 years. During much of this time I also served on the board of the Iowa Association of Conservation District Commissioners, part of that time as board secretary. In 1962 I was appointed to the State soil conservation committee and served until 1978. During part of this time, I also served as chairman of the committee. The State soil conservation committee is the policymaking body for the Iowa Department of Soil Conservation.

During this time the Governor and the Iowa Legislature did recognize the need of increasing the conservation of soil and water and appropriated funds to cost share with land owners on permanent type soil conservation practices. During this time Iowa went from a rural oriented legislature to an urban oriented legislature, and the soil conservation program gained in Iowa. This tells me the people in Iowa are interested in the conservation of our natural resources and interested in future generations. According to various polls, the people in the United States are concerned about soil erosion, forestry management, clean water, and other conservation practices that will benefit future generations.

We have many tools for helping improve all conservation measures. We do not need new ones. Let us use the ones we have.

Public Law 566 watershed program.—Funds from the Federal Government flowed through SCS into organized watersheds that qualified, with very little administrative costs.

The ACP (agricultural conservation program) administered through ASCS (Agricultural Stabilization Conservation Service) is a cost-share program which could be much more effective if we could get the welfare idea and the idea of low income out of this program. We farmers all are low income in relation to return on investment. Eliminate the $3,500 ceiling for cost share on a farm or raise it to be more realistic, like $10,000 or more per farm.

Pathfinders R.C. & D.—We appreciate your efforts at the Washington level in getting the Pathfinders R.C. & D. area authorized. It was only one of six in the U.S. funded in 1979. I feel the Soil Conservation Service has an effective rural development program through the R.C. & D. (stands for Resource Conservation and Development). I am presently treasurer of the Pathfinders R.C. & D. Area Executive Council (6 county), with offices located here in Fairfield. My máin concern is that the program needs to be funded each year and more consistently. The present administration has been advocating a need for more rural development and yet trying to phase out the R.C. & D. program. R.C. & D. in Iowa has proven to be a most effective rural development program. It's a good concept because it emphasizes local control and ties the protection and development of natural resources into human needs of a community. In addition to helping people take care of, and making wise use of natural resources, it improves a community's economy.

I would like the people of the United States to elect a President interested in the conservation of our natural resources. Not merely by saying he is interested, but by acting and proving to the people his interest by working with Congress in this matter, and get politics out of conservation. Every President for years has cut soil conservation funds from the budget, then Congress comes along and appropriates funds as if they are doing we farmers and landowners a favor. The favor is to the American people 10-20—50-100 years from now. This is merely investing in the future.

Soil Conservation Service personnel has been cut back for many years and again this year more personnel cut backs. If we intend to get conservation on the land, we need this help to strengthen the program. We need a program from the national level that is consistent year after year on a long-range plan. Then landowners and operators could plan 5 or 10 years into the future, regulate their financing, and adjust their crop acres with the program.

Point pollution is where a given problem starts—such as sewage control which is getting many, many dollars for the program. Many dollars are going to nonfood producing States.

Nonpoint pollution is where pollution shows up but cannot identify a specific point from where it starts. Soil erosion.—This needs many, many dollars for controlling this form of pollution, and these funds should be coming to food producing States. Funds have been coming for point pollution to urban areas, but little to rural areas for nonpoint.

A survey shows southeast Iowa will lose the top soil on about one-third of its cropland in 20 to 50 years. Let's take care of this before it happens.

WE NEED

1. A long-range plan for cost-sharing permanent soil and water conservation practices—5- to 10-year plan;
2. Low-interest loans through local banks, with low-interest guaranteed by Federal Government;
3. Active cost-share program with landowners and operators;
4. Let's keep a voluntary program by using educational methods—SCS, R.C. & D., Extension and other existing agencies;
5. Income tax incentive—for every dollar spent for conservation work an equal amount of dollars to come off income tax to be paid. This keeps our money at home and makes for less administrative costs;
6. ASCS Government assistance programs only if farmer follows a conservation program;
7. Using programs that get funds to landowners through grants from SCS directly to local soil conservation district;
8. Getting conservation on the land, not using conservation cost share as a welfare or low-income program. Eliminate limitations per farm;
9. Use investment credit for soil erosion control expenditures;
10. Stop cutting SCS personnel;
11. More funding for research;
12. Put an export tax on grain payable by foreign buyers and use these funds for soil conservation.

Through this I've touched upon many points but have not gone into detail or used a lot of statistics. The Dust Bowl days of the thirties brought soil and water conservation out front and this started on a voluntary basis. I understand this year the Dakotas, Western States, and Southern States are dry and hot. However, their soil is not clouding our skies. This tells me that conservation in those States is paying off and keeping their soil at home. Soil and water conservation has made gains on a voluntary basis. Let's keep it that way.

Thanks for the opportunity of expressing my thoughts and again, thanks, Senator Jepsen, for coming to Fairfield.

And again, I'd like to thank you for the opportunity for expressing my thoughts here this morning and thank Senator Jepsen for coming to Fairfield, which is the breadbasket of southeast Iowa.

Senator JEPSEN. Thank you, Don. It was very well organized, very much to the point, and rich with suggestions. That's what we're looking for. It's excellent testimony. Do you favor voluntary soil conservation practices or mandated?

Mr. JOHNSON. Well, as I pointed out I favor voluntary programs. I think the policing of a mandatory program would be very difficult and very very expensive and I think through the use of tax incentives, low-interest loans and other methods that the landowners would be willing to jump onto this program.

Senator JEPSEN. I might say that item No. 12 in your testimony is a new source of funds for soil conservation by placing export tax on grains by foreign buyers. I hadn't heard that yet. I'll put that in the record as something to consider.

Susan, do you have any questions?

Ms. SNYDER-SMITH. I wanted to mention that Senator Jepsen helped reinstate the SCS technical assistance funding last year. We intend to try and help again on that this year.

Mr. JOHNSON. More funding is——

Ms. SNYDER-SMITH. They've cut some funding out and we're going to try and reinstate the funding for technical assistance.

Mr. JOHNSON. Thank you for helping.

Senator JEPSEN. Mac, do you have anything?

Mr. MCCARTHY. Yes, Senator, just one thing. You mentioned your interest in the R.C. & D. activity?

Mr. JOHNSON. Yes.

Mr. MCCARTHY. Since we may have some legislative items coming up, perhaps before the end of this session of Congress concerning that, there is one thing I want to ask you—just your opinion on it. In some of the proposals that have been put forth on how to change, and supposedly improve the R.C. & D. programs and the efforts existing now, there's been an interest in perhaps including and increasing recreation and similar types of activities to be paid for through R.C. & D. efforts. I'd be interested to know your opinion as to whether you think things like that should be involved, at this stage, or whether we should strictly be looking at our basic resource needs and not getting into other things in R.C. & D. These are important and meaningful activities to rural commmunities, but should we place them in a lower priority in other words?

Mr. JOHNSON. I think we should have a priority. I would see nothing wrong with putting recreation into the R.C. & D. as such, if we don't get carried away and let recreation take over the R.C. & D. program. This would be my only fear at this time.

Mr. MCCARTHY. Rather than lose what could be done with soil, water, et cetera?

Mr. JOHNSON. That's right.

Mr. MCCARTHY. Should we watch out for that to happen?

Mr. JOHNSON. R.C. & D. program is a program that—many, many things can be done through this program in the local community or a given area. And I think as the program sits right now there is very much that can be done toward recreation. Again, we also—I do anyway hate to bring out that we're always looking for funds from the Federal Government, but here again is—funding is necessary for some of these programs. And if the Government has grants, they could use a R.C. & D. as a means of getting the grant into this R.C. & D. area, the local area.

Mr. McCarthy OK. Thank you very much.

Senator Jepsen. Thank you very much, Don.

I would now invite Bill McGrath to come forward and testify. Welcome, Bill, and I'd take up most of his 10 minutes if I started to list all the boards and bureaus and commissions this man is a member of and has been over the years. He's been a great public servant in Iowa. I appreciate your coming, Bili, and look forward to hearing your testimony. You may proceed.

STATEMENT OF WILLIAM McGRATH, COMMISSIONER, MONROE COUNTY SOIL CONSERVATION DISTRICT, MELROSE, IOWA

Mr. McGrath. Thank you, Senator Jepsen, it's an honor to have you here with us this morning.

I'm a soil conservation district commissioner from Monroe County, which is located in south-central Iowa. I also serve as chairman of the 4-County Chariton Valley Resource Conservation and Development projec which I might add has had a significant impact on the well-being of our 4-county area for the last 10 years. We've come a long way and we're very proud of the accomplishments.

In addition to the other positions, I served as supervisor on the Monroe County board and just a short time ago I served as a commissioner for the Iowa Department of Transportation.

I have worn so many different "hats" in recent years that sometimes it is confusing which one I should wear and which one I should take off. But the experience has been good and I've learned one thing, " That conservation means many things to many people."

As a district commissioner I've touched bases with a lot of farmers and conservation to them is trying to produce as much as possible and at the same time save their soil. A very difficult task and a costly one too. We help offset some of that cost with State cost share funds for terraces and other conservation practices, but the cost of installation is becoming more and more unrealistic to the farmer every year.

When I was a Monroe County supervisor, conservation to me was a means to eliminate costly road maintenance by completing roadside stabilization projects and installing road structures to eliminate the need for the costly bridge construction. My main concern was economics with less emphasis of the tremendous erosion control benefits which occurred.

While serving as a DOT commissioner, I was a part of a $500,000 appropriation to the Department of Soil Conservation for roadside stabilization. Conservation here will not only reduce erosion along our State highways, but will improve the scenic aspects of traveling for motorists.

I've been involved with the Chariton Valley R.C. & D. project from its beginning back in 1970 until the present serving as executive board chairman. Over the years as a result of R.C. & D. activities we have completed and assisted with various projects ranging from erosion and flood control, to rural water and community development, amounting to well over $250 million in either grants or loans to units of government and nonprofit organizations in the project area.

Aside from all the benefits resulting from these projects, conservation to me in this position means cooperation. We all know how hard it is for just two people to agree on something, well you can imagine what it takes for four counties. I think one of the secrets to our success has been our ability to identify and agree upon a common goal early in the process. After this is done cooperation follows.

Today we're all here in the name of soil conservation and I think united in the fact that our goal is to reduce erosion to acceptable limits so that we can maintain our productive capabilities and at the same time clean up our environment.

It seems ironic though that each year more and more demands are put upon us to solve our conservation problems, and yet the Government continually cuts the very programs that we need to get the job done. If we are going to meet the goals set out by the year 2000 we're going to have to see a lot more cooperation.

The landowner has a big responsibility to see to it that the land is used according to it's capabilities and the necessary conservation practices are installed.

I feel Congress should share this responsibility by providing adequate program funds and the necessary manpower to carry out the programs.

In Monroe County we average 15 tons of soil loss per acre per year. If we continue at this rate our productive capability in 20 years is in serious jeopardy. Our program needs to be accelerated. For example we average 70,000 feet of terraces annually. We need an additional 17,400,000 feet. At the current rate of application it would take 249 years to complete the terrace work. If the program were accelerated to 20 years for completion 870,000 feet of terraces have to be installed annually. In order to provide cost-share assistance to landowners for terracing our current cost-share program allocations would have to be increased 6.5 times. We also must realize that staffing needs for district conservationist, soil conservation technicians, engineers, and clerical assistants would increase. In our district alone we would need three additional conservation planners, six conservation tehnicians, six conservation aids and three clerical assistants. Even now we are short of trained personnel to get the job done at current rates of application. The hiring ceilings placed on the Soil Conservation Service does not help matters.

An accelerated program to the extent mentioned is probably not too realistic at this point, but the fact remains that we have to do some better than we are doing now.

We here on the homefront are on the other hand trying to eliminate some of the demands for money placed on Congress, by coming up with a relatively inexpensive means of accomplishing soil conservation. One such way is by using conservation tillage or no-till farming. By leaving crop residues on the surface after planting the landowner can reduce his erosion by 50 percent or more, and at the same time save fuel and time.

We at the Chariton Valley R.C. & D. project have been working in cooperation with the Iowa Conservation Commission and the Soil Conservation Service in demonstrating how conservation no-till can work. We are using approximately 300 acres of land adjacent to Rathbun Lake for a conservation field trials area. The benefits are twofold, on the one hand we are demonstrating various methods of no-till to area farmers and on the other hand protecting Lake Rathbun from pollution. This program has been very successful and we encourage your support of these kinds of activities in the future.

In summary, I've tried to bring out the fact that everyone is concerned about soil conservation in their own way, but still recognizing the great need. I've also pointed out that we need to accelerate our program to meet the demands of the future. I've pointed out that cooperation and the sharing of responsibilities is necessary for realization of our goals. I also wanted to make it clear that we are not always looking for Congress to bail us out, but that we are trying to work out some of the problems at home, such as with conservation field trials. With all this in mind I am pleased to have been given the opportunity to discuss the issue with you today.

Senator JEPSEN. Thank you, Bill, very well done. And your field trials are an example of a picture worth 1,000 words. Demonstrating good practices are becoming a part of the education program.

Mr. MCGRATH. We feel they're accomplishing something. We're tending to go for the younger farmer. We know someone in the 60 to 65 area, it's hard for him to change his ways; even though many will. We've had the field trials and had the people out and last year we had over 60 young people in the thirties and along in that area and I think that's the ones we have to look to. This is something they can do on their own farms. They don't have to look at the Government to do this and it saves them fuel costs as Mr. Johnson said here today and we found this truly to be.

Senator JEPSEN. Super. Do you feel that conservation practices should be voluntary or mandated? Do you want to comment on that?

Mr. MCGRATH. I guess what we're trying to do here, as we just spoke, is the educational aspect and I'd like to keep it voluntary if we could at all. One of the problems I set out here—and I hear you ask that question and it comes to mind. We are beginning to notice a trend that the farms are getting so much larger. Some of the agribusiness people are starting to buy land up around my area because of the lake projects; they're really looking to that. And when you have an absentee owner like that 100, 200 miles away, they do not care for the soil like the man that's on the soil. So yes, I want to be for voluntary, but I believe there is coming a day when these people that are just not interested in conservation, we can't say forget it fellow. We're going to have to say you're going to have to do something.

Senator JEPSEN. Susan, any comments?

Ms. SNYDER-SMITH. No questions.

Mr. MCCARTHY. No questions, Senator.

Senator JEPSEN. Thank you very much, Bill.

Tom Krumboltz is next. Welcome Tom.

STATEMENT OF TOM KRUMBOLTZ, FAIRFIELD, IOWA

Mr. **Krumboltz.** I'm Tom Krumboltz; I farm about 3 miles west of Fairfield here. My main interest in conservation is from a no-till standpoint. I first started with no-till about 1966 and being raised on a farm background that my dad give me, we were interested in soil conservation. He contoured and strip cropped since 1940, so I—when I first heard about no-till, I was very interested in it. And the advantage of no-till is that it stops soil erosion right where it starts.

Soil erosion is a nonpoint pollution type business and so we need to stop the soil right where it starts. And this is what it will do for you. It will not allow it to start to the gullies and create them. During the rains this spring, which we had the heaviest ones around here, our land just did not erode. And this year was the first year that we went to strictly no-till on all of our ground; we have an area of 100 to 200 acres of beans and an area of 200 to 300 acres of corn a year. In addition to that, of course, we have the fuel savings. In the last few years we have put our crop in for about a gallon of fuel per acre and this includes putting on our own anhydrous and includes doing our own spraying. It's not compared to some other system where the anhydrous is put on in June or the man picks up the telephone to have the spraying done. So you see there is a fuel savings there. There are some education problems with no-till and in order to do it right it has to be done about a certain way. I have three pages of recommendations for no-till that are available from me if anyone so desires.

And to do it right we need to recognize some of the old habits that farmers have and these just have to be eliminated and the man has to get in his own mind that he's going to do it. And he's going to have to say it's going to work, because—to plant the corn right in an untilled soil is something different and then to do the spraying so it's right is another job. So there is education that needs to be done in this area and believe me it will work. No-till will work and it will do a lot of good things for you besides saving fuel and saving labor and just stopping soil erosion completely.

The other part that I want to talk about—I'm not going to get into any more about how to do no-till now, but I'd like to talk about the funding from the Government and what is wrong now and what needs to be done. First of all, the ASC does not recognize corn or oats in normal crop acres. It has never been recognized for years and right there they're against soil conservation. I mean they're not doing all they can to help. Because the corn—I mean oats and meadow in a farming operation saves soil. I do not do business with the ASC office. I mean I don't need them.

I believe the only thing that they're needed for is soil conservation payments and drought disaster loans. Their grain bin loans and everything is a paper shuffling, wasteful taxpayer spending as far as I'm concerned.

The other part about it is that on the terracing part, terraces are getting more costly to make every year. And I have some terraces and I recommend that the only terraces that are approved are those that are on land that's less than 3-percent slope or at the most 5 percent. In other words the first terrace off the top of the flat ground going own the hill, if you follow me, you go down below that terrace, you et into terraces that are too close together, you're moving too much oil and for the dollars spent you're not getting the soil conservation at you need. There you must go to no-till. And in fact I've seen it at you have to go to no-till to stop the soil erosion even on these rraces that are constructed on 3- and 4-percent slopes, right off that at ground, because there will be little gullies washed down into those rraces.

So in a sense what I'm saying is if we have some dollars to spend, is is the most efficient way to spend them, is that first terrace. The ext thing is that in appropriating funds with the no-till innovation oming on, we checked in this county and there were just three farm- s with age less than 40 that received funds for soil conservation last ar on terracing.

The thing is the young farmer cannot afford to pay even his half of terrace job. So the older farmer is getting all the benefit of the soil nservation money, basically, all of it. In other words what needs to be one is appropriated money to no-till for the farmer to do no-till. mmitting himself on a several-year plan for this no-till system.

The other part that I must bring out—I am a firm believer that we ve to have a constitutional amendment to balance the Federal budget. see no other way to keep our Government, to keep our society straight an to do this. Because for years we have printed this so-called funny oney to cover the programs Congress has elected to do and pushed is trillion-dollar debt to the limit. And if anyone doesn't agree with e, I'd like for them to come out and tell my kids that, "Look, we ved in our generation too high and now you pay the $100,000 a minute terest on this debt and then if you elect to pay some of it back, OK." t I am a firm believer in that we have to have a constitutional nendment; there is no other way we can get the job done. Then the ograms these liberal politicians elect to put through, they'll have to so come back and say, "Look, Mr. Taxpayer, you've got to pay for it, o." Then we're going to figure out which programs are really needed d which programs can be reduced or eliminated completely. And think that this applies to soil conservation as well as whether you're lking about welfare or defense or anything else. I think that's the ain part of my statements.

Ms. Snyder-Smith. Thank you. I think the Senator would want me ask if you favor voluntary or a mandatory approach to soil nservation.

Mr. Krumboltz. Voluntary, definitely. However, as Mr. McGrath inted out, someplace down the line there is going to be a few that e going to have to be told to. I see some of the biggest problems with -till is that the young farmer has looked into it, he's studied it and maybe ready to adopt it, but maybe he has two or three different ndlords. One of them might be inclined to. The other two, if they dn't want to, they could turn around and pick up the phone and ve their farm rented to somebody else for the next year just like at. So the tenant is in no position to push this no-till too far. Then if tries it 1 year and he makes a mistake—and I guarantee he will l he learns how—then that landlord's going to be disgusted and the nant will be at another disadvantage. So get to these absentee landlords that haven't seen their farm in maybe 10 years and don't know what the soil erosion is all about out there. To get to them we'll have to go a little further than we are now on this voluntary approach. That is where the problem is going to lie whether it's voluntary or nonvoluntary.

Ms. **Snyder-Smith.** In regard to no-till, do you find you have to use any more pesticides to keep weeds down?

Mr. **Krumboltz.** In no-till the thing that has been brought out—and this is the problem of the universities, as far as I'm concerned, with weeds and insects. I think they've set tillage back 10 years because of that. If you have a weed problem out there with your conventional tillage, you're still going to have it with no-till. If you have an insect problem, you'll have it with no-till.

Ms. **Snyder-Smith.** But you don't think the weed problem is increasingly with no-till.

Mr. **Krumboltz.** You've got to treat them and apply these chemicals a little different with the no-till system, a little different time. It's a timing situation and so, on. But I'll tell you another thing. The Government on the other hand, you know, may be putting out money for soil conservation funds, but they've restricted chemical companies to where there's no incentive to try and develop new chemicals or no incentive to get more combination treatments we need out here, maybe to do better weed control. And here's a place where the stupid regulations that EPA—I think we ought to take EPA and OSHA and put them on vacation for 2 months and then just do like business, just eliminate employees by attrition. When we have to balance our checkbooks and things get a little tough, we have to make some decisions, you know, so the regulations are a handicap.

Ms. **Snyder-Smith.** OK. Mac?

Mr. **McCarthy.** I just want to ask whether you have any way of knowing or estimating what your fuel costs might be, had you not been using no-till? You mentioned the figure of about what it's costing you now. Do you have any estimate about what you were probably spending before?

Mr. **Krumboltz.** I think you're assuming your conventional tillage will take 4 to 5 gallons to the acre, see. Now, the other part of no-till—when you go to corn-bean rotation, and I felt to get no-tillage across we'd have to have it for corn and soybeans both, most of that ground is in corn and soybean rotation. I think cultivating pays anyway. You need a rolling cultivating in this trashy situation where the old cornstalks and such are there so you are going to be involved in cultivating later on, see, anyway, so that would add to the fuel. Understand what I mean?

Mr. **McCarthy.** Right.

Mr. **Krumboltz.** This gallon doesn't include say three cultivations or two, whatever it takes. Corn maybe once, but beans maybe two or three times.

Mr. **McCarthy.** Fine. Thank you very much.

Ms. **Snyder-Smith.** Thank you, Tom.

Senator **Jepsen.** I'll introduce Ray Stange from Muscatine. You may proceed.

STATEMENT OF RAY STANGE, MUSCATINE, IOWA

Mr. STANGE. Thank you very much. My speech is a followup for what the previous speaker had. I'll talk on what we call the minimum-till and no-till operation for conservation. I've been a soil conservation commissioner in Muscatine district for the last 16 years. And during those years we've seen terracing, farm ponds, many other practices that were funded through cost share programs that have, shall we say, matured; they're inoperable at this time due to management reasons and maybe just neglect, which is the main reason. And in Muscatine district we have a very strong feeling that the no-till operation or the minimum-till operation will buy more conservation than the terracing system, although the terrace system is needed in some situations and we look very favorably to long-term projects.

If it has to be an erosion control structure of some sort, then it would be a long-term program and so the benefits would be received over the years. And it is my opinion that the no-till and the minimum-till are the most effective, most economical tools that we have today for conservation. And in the decades of the seventies, I think we've all seen the larger machinery, the heavier machinery. Instead of progress in conservation we've declined in conservation, along with the fact that we're demanding all-out production.

The time involved up to terraces, going on contour, saving our waterways, many of the operators will not take time to do it. And one thing I think we've overlooked is that the heavy machinery will compact soil and we all know plant crops need oxygen to grow properly, so with the minimum-till and no-till we're eliminating some of this compaction problem. With the minimum-till or Iowa-till the SCS is pushing where you leave 50 percent of your residue on the surface of your ground instead of turning it all under—and 50 percent here in Iowa we would consider probably 2,500 pounds of residue—that would increase the water holding, reduce the runoff and save our—make the better water capabilities for holding the water.

In a no-till method, which is easier than minimum-till because you have fewer trips, you use the special built no-till conservation planter. You plant right into your previous year residue. You have your five and maybe upward of even 6,000 pounds of residue some years lying on top of the ground. You do not disturb the soil, very small trough, you have no compaction except in the middle of the rows and the crop isn't growing there anyhow and you have all the residue on the ground to hold the erosion, to catch the water that may fall and for your soil and water conservation. And in a no-till operation, like the previous speaker said, you can put your crop in for a gallon an acre.

This spring I just checked on my own operation up there on one field and we put it in with the spraying and the planting and if I don't cultivate, which I didn't the whole field—the only reason I cultivated on that field was to answer some questions for some people that were a little leary of the operation. So I stripped cultivated to see if it would produce better or make a difference, but to take out the cultivating we had just three-quarters to the acre of fuel to put the crop to the combine. And with both the no-till and minimum-till operation we find that it takes no more chemical or pesticide to control the weeds or the insects.

But there is one thing that's very definite. There is a management problem. Like the previous speaker said, there is a time to do it and the proper analysis to use and to do it when the time arises.

But I wasn't knocking terraces a minute ago. Like I said, you cannot eliminate the terrace completely. Because if you have steeper and longer slopes, especially the longer ones where your water runoff will be a little better we prefer tile outlet terraces. And to Muscatine district we would like to recommend that there would be some funds appropriated or approved especially for no-till, but not on a yearly basis. We think that if anyone were to accept those funds they should be at least on a 3-year basis where they have to maintain a no-till program or better yet a 5-year basis. That's it.

Senator Jepsen. That was going to be my question. In your last very specific recommendation where you recommended funds to be used specifically for long-term no-till contract. I was going to ask what is a long-term contract?

Mr. Stange. At least 3 years. So even if the person does a poor job of management, we are engaging those 3 years of a no-till operation of soil control, erosion control on those acres at least for 3 years.

Senator Jepsen. In your opinion can most farmland, regardless of the makeup of the soil or the configuration, be utilized on a no-till basis; can you farm on a no-till basis?

Mr. Stange. My feeling is that it—they have the potential for no-till. We've never run into any problem even going from a heavy residue in seeding oats to a legume crop. We've got along good on that. That was our concern when we started, but it's been no problem. On the flat land where you have your gumbos they're called, or heavy soils, I think we run into more problems from just too much working of the soil, from compaction, where after a good winter's freeze the ground is ready—it's broken up with the freeze so the air entrance benefits the farm. But when you run around there with dual-wheeled tractors, you're bound to compact it.

Senator Jepsen. Do you think conservation practices should be voluntary or mandated?

Mr. Stange. Voluntary by all means.

Senator Jepsen. Voluntary?

Mr. Stange. Unless we have to enact the conservancy law.

Senator Jepsen. Susan?

Ms. Snyder-Smith. No questions.

Senator Jepsen. Mac?

Mr. McCarthy. None, Senator.

Senator Jepsen. Thank you very much: very well done.

Merle, is it Glenney; did I pronounce that right?

Mr. Glenney. Yes.

Senator Jepsen. I'd like to introduce Merle Glenney and introduce him at this time and invite him to come forward and give his testimony. Merle is also from Rural Route Muscatine, Iowa, but knowing how these rural routes go it doesn't mean you're necessarily neighbors to Ray Stange. Welcome and you may proceed.

STATEMENT OF MERLE GLENNEY, MUSCATINE, IOWA

Mr. GLENNEY. Hon. Roger Jepsen and other members of the U.S. Senate Committee on Agriculture:

I am Merle Glenney, Rural Route No. 4, Box 251, Muscatine, Iowa. My son and I farm 600 acres of basically Muscatine silt loam soil with a slope, ranging from 1 percent to 6 percent, most of it averaging from 2 to 3 percent slope but with long slopes—60–100 rod—creating prime erosion patterns with hard excessive rains.

My farm was purchased in 1955, a very marginal, low producing farm with some cavernous ditches. Through the help of the Muscatine Soil Conservation Office and good management practices, I can now compete with anyone in the neighborhood production wise and excell most with the soil conserving practices we do employ—contouring, terraces, and management practices. For this reason, I feel qualified to testify on this very important agricultural committee.

I believe the family-sized farm is a very important part of soil conservation work. They are the ones who will take the time and effort to be good stewards of our soil, not the great big farmers who roll aimlessly over the many acres with a dollar sign dangling at the other end. I believe in incentives and subsidies to keep the family-sized farm alive, and likewise a gradual decrease of payments to large farms in proportion to their size.

I believe in contouring, terracing, and minimum or no-till practices. I believe the ultimate in conservation practices would be to get the farmers' price index back so they could afford to practice, once again, legume rotation, less row crops, and have contouring, terracing, and minimum and no-till practices to complement the rotation management plan.

Every farm is different; where one plan works great on one farm, it wouldn't work on another. On my farm, I have spent thousands of dollars on inlet terraces. Your Government has helped me on some, and on others I paid the whole bill. This is very expensive, and hardly any landowners can undertake this without Government help.

I believe the Government has manipulated cheap food policies to all its constituents at the expense of the farmer, so in turn I think this soil conservation problem is a problem that has to be shared by the total population.

Eight years ago my farm was involved in a pilot neighborhood group project. This involved six landowners all joining land at one side or the other. This project was set up by our local SCS office and each paid his proportionate share with Government assistance at 50 percent of dirt work and tile affecting the terrace work. This project worked. It has made for better relationships between neighbors, our soil loss is nearly nil. And it has been written up in "Succesful Farming" and viewed by many people throughout the State. It does work.

These tile inlet group projects have been too slow and expensive to use altogether, but with minimum and no-till practices to enhance, not take the place of the tile inlet projects, the farmer can expedite greatly the projects to lessen soil loss.

Most farmers are good stewards of the soil. However, a percentage of farmers will have to be reached by mandatory practices. There is no way some farmers—even with Government assistance—will voluntarily cooperate.

My neighbor to the north had a severe erosion problem because of the runoff of water from my land above him. By cooperating with each other and our local SCS office, a plan was engineered where I placed five inlet parallel terraces on my land above him and ran our inlet tile lines down through my neighbor's land to the ditch for a discharge. By this process, he got his field tiled, he has no more ditches in his field caused by my runoff, and I am controlling the sheet erosion on my high land. This is public relations at work.

There is no industry in the United States as efficient as the American farmer. When he, on several occasions, has been called on for production, the response has been overwhelming. But when he overproduces, he has been used as a pawn by the U.S. Government.

The State of Iowa is an agricultural State. As the farm economy goes, so goes the economy of the State. Because of farm prices, the State of Iowa is now in deep recession.

In the first chapter of Genesis, God created the land and all of its inhabitants and beauty, then He made man to be stewards of His creation, and this was good. Gentlemen, we farmers desperately need more help to save and enhance this land we were left to trustee.

It has been an honor for me to testify before the U.S. Agriculture Committee. Thank you.

Senator JEPSEN. Thank you, Merle, and it was very well done. God created the land and made man steward over it and also gave man dominion over all the birds in the air and fishes in the sea.

Mr. GLENNEY. Right.

Senator JEPSEN. And that also creates some responsibility on man's part and that's what we get around to being, responsible stewards and trustees of the land. It's very well done. You say this is public relations at work when your neighbor got his field tiled and you took care of your runoffs. You tiled the field and I would say that's more than public relations; that's good neighbors and cooperation.

Mr. GLENNEY. It makes for good neighbors, yes. This other project has been viewed by the Iowa State Soil Conservation Commission. I think Mr. Stange can testify, he's been out there and it's a beautiful thing. I don't disagree with Mr. Stange or anybody on minimum-tillage or no-till. I think there is definitely a place for it. I think there is a place for the inlet terrace. I think they need to be joined hand in hand and one compliment the other.

Senator JEPSEN. I note by your testimony you feel there are some instances where soil conservation practices must be mandatory because no matter what—to paraphrase that—some people fight their own salvation and some people aren't going to do any soil conservation. For those who refuse, after a certain length of time, would you want this direction to come from a Federal level or this mandating to come from a State level, or does it make any difference?

Mr. GLENNEY. I haven't gotten that figured out. I know that if it comes from the local level, it will make severe hardships, the local people trying to administer it. I know that it has to be done. I can't answer that I guess. I'd rather see it from the State than the Federal.

Senator JEPSEN. Well, you answered it.

Mr. **Glenney.** All right.

Senator **Jepsen.** Thank you.

Ms. **Snyder-Smith.** No questions.

Senator **Jepsen.** Mac?

Mr. **McCarthy.** None, Senator. Thank you very much.

Senator **Jepsen.** Thank you very much, Merle.

At this time I would like to introduce, and invite to come forward, John Oberhaus from Letts, Iowa.

Mr. **Oberhaus.** I'd like to leave this current article with you; it's quite impressive I thought.

Senator **Jepsen.** You may proceed.

STATEMENT OF JOHN OBERHAUS, LETTS, IOWA

Mr. **Oberhaus.** My name is John Oberhaus and I live in Muscatine County and my address is Letts. I'm the father of four children; one in high school and three in college and I've been farming for approximately 30 years. I will proceed to read my written testimony.

I would first like to take this opportunity to thank Senator Jepsen and his subcommittee for inviting me and others to testify on the seriousness of soil erosion.

In starting my testimony I would like to relate a few statistics about Iowa and my locality. In 1860 less than 3 percent of Iowa's land, about 1 million acres, was planted in corn. In 1979 the figure was 13 million acres. In 1940 about one-third of Iowa's fertile soil was plowed for corn production. Tractors and horses plowed very shallow—5 to 6 inches—because of lack of size and power. Today we have giants which can plow 14 inches deep and subsoil up to 24 inches. This loosens the soil to greater depths and thus it becomes easier to erode once it reaches its point of saturation in a heavy rain.

By 1960 improved corn varieties and increased use of fertilizer helped to more than double the top corn yields of the 1940's. But bigger farm equipment led to more vertical, as opposed to terraced or contoured, farming of hillsides. Soybeans were catching on as another major new crop, and the stage was set for increased soil erosion. With today's so-called large economic units—1,000 or more acres per full-time man—a farming operation does not have the time or money to build terraces or contours, to strip crop or to contend with point rows. This large operator has such a large investment in machinery that he is trying to pay for that he cannot afford terraces, nor does this large equipment lend itself very easily to strip crop or contouring.

I use 6-row equipment which is about as wide as one can efficiently operate. The large operations with 8- or 12-row equipment would have to build wide terraces, the cost of which would be prohibitive.

Another point I would like to touch on is the very long depreciation period the Internal Revenue Service forces us to take on the tile used in the tile outlet terrace systems and dam pipe systems and any other items used in soil conservation structures which they require us to depreciate. My tax accountant put my tile outlet terrace systems on a 30-year depreciation schedule. He says this is what the IRS requires. This alone with the high cost of money and not being able to write the work off the year I have it done has raised serious thoughts as to the economic feasibility of soil conservation structures. It is one thing to build these terraces and lose the productivity capabilities of the land for 5 years, but to be forced by the IRS to depreciate any part of it and not being able to write it off the year it is completed is defying any economic incentive the farmer may have to do this voluntarily. I also suggest that the farmer be given a 20-percent investment credit incentive with no useful life clause attached, to help with the tremendous added cost of soil conservation structures. I would also like to see any new funds appropriated to be sent directly to the land and not to be used partially for administrative jobs to increase the bureaucracy.

In the State of Iowa, and our area in particular, where we receive the highest annual rainfall in the State, I know for fact 50 percent of our topsoil has disappeared through erosion. The 97 percent of our population who are not involved in farming do not realize that with this already great loss, it is becoming harder to naturally increase crop yield without the use of proportionately larger amounts of commercial fertilizer and chemicals. I have seen the difficulties in the past several years of farmers on rolling land, trying to get even seeding stands on cloddy, eroded subsoil. This situation will increase as time goes on, and uneven plant stands will naturally result in lower yields.

Another subject I would like to touch on is the size of the so-called "family farm" as it relates to an effective soil conservation program. It is my firm belief that the family farm unit should consist of 300 to 400 acres, not the previously mentioned 500 to 1,000 acre units. I have noticed time and again that on the smaller units the most effective and efficient soil conservation is practiced. Also these smaller units should receive a higher proportion of payments for conservation than larger units because of the volume of acres these larger units have to derive their income from.

In my closing remarks I would like to add these few comments.

I would like to see much better economic incentives to get this conservation job done voluntarily.

If it cannot be accomplished voluntarily, then laws must be administered to make conservation mandatory. This again cannot be done without a large financial commitment which finds its way directly to the land and is not siphoned off by administrative bureaucracy costs.

On the same subject, I would like to see subsidies of grains grown in this country cut 50 percent and that amount applied to livestock production and livestock products for export. This would provide many more jobs, fertilizer and humus for soils, phosphorus for feed and plant food, methane gas, and many other byproducts. We are foolishly expending 2 bushels of topsoil to export 1 bushel of grain. and this same grain is generally cheap in comparison to its cost at its destination point. The only way out of this vicious cycle is to lower the balance of trade deficit by lowering rising grain surpluses.

I strongly believe it is time to reject the financially strong lobby of the giant grain companies and think of conserving America's No. 1 resource, our soil, so generations from now they will have a good agricultural base on which to build food productivity. I would be glad to discuss any of my statements in detail. Thank you again.

Senator Jepsen. Very well done. John, I'd like you to elaborate, if you would, on whether you feel that soil conservation practices should be voluntary or mandated. You touched on that more than most in your testimony here. And if you could add to that; specifically if it's mandated, what level should it be mandated from, the State or the Federal? Would you please comment for the record some more in that area?

Mr. Oberhaus. In my experiences I have been rather conservative in purchases of strictly modern, updated farm equipment and I have spent quite a bit of money on tile outlet terraces and parallel terraces. I see my neighbors, which have grown a lot larger in size in farming operations around me, not do any of these practices at all. In one case they did get funds for a drainage in a field that was wet. I can see by the way things are going there is no other way than to mandate a law and I believe it should be administered on a State level because States are different. This way we would have a closer and more effective input on it ourselves than having it from the Federal Government. Seems like laws legislated in Washington, D.C., never get to react to or to take part in anything that happens there. It seems like it just—like on the State level I do get to Des Moines.

I have worked through the Farm Bureau through lobbying and I'm on the subcommittee on a party at home and I do have a closer contact with State representatives and senators from our local area, so I think it should be on State level and I do think it will have to be mandatory.

Senator Jepsen. That's interesting. From testimony in the last 3 days, when Congress takes a look at developing the soil conservation plans next year for the 1980's, we ought to look at the total picture of the farm programs, what farm programs are going to be, take that into effect. There has been a concerted drive to try and assist farmers with programs and crop programs. At the same time it has contributed a great deal to soil erosion and forced people to plant row to row. Is it your feeling that chances of soil conservation practices being implemented are much greater when the farmer has a profit, some money to do it?

Mr. Oberhaus. It would help on our taxes. It would be greatly appreciated. The price of this grain we're supporting—my daughter just got back from a people-to-people tour of 38 days in Europe. She was in Greece, Germany, Austria, and two Communist countries and I asked her to find out what a bushel of corn would bring at a destination point. I believe it is $7 to $8 to them when they receive it, finally, with export and everything. So there must be tremendous profits in between. And like I say, it's taken two bushels of soil to export one bushel of corn right now, so I think it's a very serious situation.

Senator Jepsen. I agree. There is a precedent to give farmers a 10-percent tax investment credit. It does seem this certainly is an option of something we would take a long hard look at for either all or part of conservation; tilling, for example, something that's very permanent in nature.

Mr. Oberhaus. One thing they had done and helped a little. We used to draw the 50-percent Government help for doing this, but this had to be added to our gross amount of dollars earned that year and that just pushed you up into another 3, 4, or 5 percent tax bracket and that hurts worst yet. So I think if that could be considered, that would help some.

Ms. SNYDER-SMITH. No questions.

Mr. McCARTHY. None. Very fine statement. Thank you.

Senator JEPSEN. Thank you very much, John, I enjoyed it.

I'd like now to introduce a neighbor from Illinois, Jon Scholl. Welcome to Iowa and welcome to this committee hearing. We're looking forward to hearing your testimony.

STATEMENT OF JON SCHOLL, ASSISTANT DIRECTOR, DEPARTMENT OF NATURAL AND ENVIRONMENTAL RESOURCES, ILLINOIS FARM BUREAU

Mr. SCHOLL. My name is Jon Scholl. I am the assistant director of the department of natural and environmental resources for the Illinois Farm Bureau. I am testifying on behalf of Farm Bureau members in the State of Illinois.

You are to be commended on holding these hearings. We especially appreciate your letting us come across the State line to participate. The conservation of our soil and water resources is one of the most basic issues we must address in all States if we are to maintain the highly productive agricultural industry with which we have become accustomed.

The Illinois Farm Bureau has a strong interest in soil conservation and water quality. Our concern was succinctly stated in Harold Steele's annual meeting address in December of 1979 to delegates of Farm Bureau. Mr. Steele is the president of the Illinois Farm Bureau. He told his fellow farmers, "We should no longer jump on that big tractor in the fall, sink the plow deep in the soil and head up over the top of yonder hill. The facts are we've lost one-third of our topsoil since the virgin prairie was first turned under." We see this issue as one in which farmers must take the lead in preventing reduced soil productivity and increased government involvement.

Many do not understand how a farmer can tolerate soil erosion. For the onlooker who sees dirt in the ditch after a big rain or the muddy Mississippi River, soil loss is a sickening by-product of careless farmers and/or landowners. While farmers do not want to see their farms wash away, there are aspects of the soil erosion problem which make it difficult to solve.

Soil erosion often occurs on a person's farm without any visible effect. To lose the "permissible" level of soil each year would be comparable to removing the thickness of a sheet of paper. Giving a great amount of time and money to a problem often not seen and which will likely not affect the productivity of the farmland during the farmer's lifetime is difficult when he is facing more immediate demands upon his time and finances.

The cost of implementing necessary soil erosion control practices and structures are often prohibitive. They are short-term costs. They come out of a landowner's cash flow immediately. Yet, the benefits of soil conservation are long term. For a farmer to realize improved productivity through reduced soil losses would take many years depending upon his soil type and previous level of erosion.

The University of Illinois has been studying western Illinois' Big Blue Creek Watershed for the past several years. This particular water hed was chosen as agronomists felt it to be representative of the Corn elt. It is disturbing to note that 57 percent of this watershed is rojected to lose all its topsoil in 100 years under current practices.

Net farm revenues in the Big Blue Creek Watershed were plotted or a 100-year period. Revenues were maximized for the first 25 to 30 ears on the farm which had no conservation applied. After that eriod, revenues declined rapidly as acreage had to be switched into astureland. It is interesting to note farming was more profitable in he first 30 years under existing practices than with practices which chieve soil loss tolerances.

To go one step further, one must recognize the fact that 88 percent f our land is owned by people who will be at retirement in about 25 ears or less according to USDA statistics. Considering this planning orizon, they would be best advised not to conserve their soil if they vish to only maximize economic returns in the absence of positive overnmental conservation assistance.

Another reason erosion has not gotten the necessary attention over he past several decades is that improved technology has allowed farmers to increase soil productivity through the use of chemicals, improved ybrids, and better management practices. Such technological improvements have made it possible for net returns to increase, thereby egating some of the bad effects of soil erosion.

Another frequent question is why should Government pay landowners to improve their property. I feel this is best answered by looking t the alternatives to soil conservation programs.

There are several scenarios under which future soil conservation rograms could operate. One is to do nothing. Another is to make farmers conserve soil by regulation and another is to offer farmers cost hare funds along with a vigorous education/information program. As I elaborate on these three scenarios, please keep in mind the problems farmers are facing with soil erosion: Lack of a visible problem, hort-term costs versus long-term benefits, and productivity compensation via improved technology.

The first scenario—to do nothing—is unreasonable to most as nothing s done to preserve the productivity of some of the richest soils in the world. It does nothing to stop the flow of sediment into public water bodies. Counties and townships continue to spend millions of dollars to dredge ditches and lakes. And, perhaps most critically, total production of food would eventually be reduced. The consumer as well as the farmer loses in the end. To no one's surprise, to do nothing was not one of the strategies proposed by USDA in the alternatives under the Resources Conservation Act.

The second scenario is to regulate soil erosion. This seems to be the choice of some as it would be the easiest solution to the soil erosion problem for those not involved in farming or those farmers who don't have a problem. However, such an approach is inappropriate and flawed for several reasons. Government will likely never appropriate the billions of dollars necessary to pay society's part in controlling erosion and improving water quality. To make farmers control soil losses without adequate financial assistance would in many instances place an economic burden on them they would not be able to bear. Inspectors and administrators needed to implement a regulatory program covering such a physically vast area would be a very large and unnecessary expense. And perhaps most critically, the result of this scenario would be large amounts of taxpayer dollars spent on a program which would primarily serve to substantially irritate a large number of farmers and landowners. We are not convinced that Government can do it better than the people affected locally.

To slap on regulations is often an easy way out for those who are not made to pay for the regulations. Much more time and effort is required to make a voluntary program work. But it is a firm belief of the Illinois Farm Bureau that a voluntary program with proper incentives is more cost effective and goal effective in the long run.

The U.S. Department of Agriculture has posed for comment under Resources Conservation Act, two types of regulatory programs. One is entitled regulatory emphasis; the second cross compliance. Farm Bureau is strongly against programs which would coerce farmers into applying conservation. Farmers should be encouraged to voluntarily reduce soil erosion. We are especially concerned about the concept of cross compliance as this is only a back door regulatory program. To administer such a program would be costly, inefficient, and would defeat the purposes of some necessary and valuable Government programs.

A third scenario in which soil and water conservation programs could evolve represents a positive incentive to farmers and landowners in the form of technical assistance and cost sharing. The mechanism to administer this type of program is already in place. It does something about the soil erosion and water quality problem immediately. The available dollars for cost sharing could be allocated to the most critical erosion areas, offering the most benefit for the dollar spent.

The Resources Conservation Act addresses this positive incentive approach with its redirecting present conservation programs, conservation performance bonus and natural resource contracts alternatives. Farm Bureau is very much of the opinion that local people can solve local problems effectively and efficiently when they are convinced a problem exists and they are given the necessary resources with which to combat the problem. Such positive incentives as these RCA alternative strategies suggest are the best means of obtaining successful results.

The reasons for a positive incentive cost share program are several. Most importantly, it is to assist the farmer with the direct costs of implementing a soil erosion control practice. As I mentioned earlier, much soil and water conservation work imposes upon the landowner an economic cost upon which no return is received in the short term. Another important incentive from the cost share approach is to encourage farmers to take the risk of implementing new practices in their management system. Most farmers have tillage systems they have tried and proven in the past. They are often reluctant to change those practices which have worked well for them. They are reluctant because a failure with a new management system can impose upon them avoidable and sometimes high costs. Any new management practices involving soil and water conservation require testing and learning by the farmer. Cost-sharing payments offer the farmer a little protection from reduced revenues which may result from this learning process.

The Federal Government puts roughly $6 million into the State of Illinois annually in the form of cost-sharing payments to landowners for soil and water conservation work. This money is administered through the County Agricultural Stabilization and Conservation Service offices. The State ASCS office estimates that only one-third of the requests for soil and water conservation cost-sharing funds can be filled due to a lack of money. A very legitimate function of the Federal Government would be to continue and increase cost share programs to be administered at the local level. As the experience with the Big Blue Creek Watershed project in western Illinois discussed earlier indicates, many farmers cannot economically justify large expenditures for conservation work given their relatively short planning horizons. Society must help carry the economic burden the long-term good requires.

The State of Illinois is currently undergoing a change which we believe will prove that State and local governments can effectively tackle the soil erosion problem. Official State soil loss guidelines were adopted April 1980, setting standards on all soil types in the State of Illinois. The Illinois General Assembly for the first time this year appropriated $500,000 for a conservation cost-sharing program. More resources are being put into local soil and water conservation districts so they can act as a local administrative agency in which input by individual citizens can be effectively utilized. All these actions are increasing the awareness of the soil erosion problem in Illinois. It is also getting local people involved which is necessary to securing the voluntary cooperation of those who must ultimately make the final decisions of whether or not to apply conservation practices.

The Illinois Farm Bureau is greatly expanding its program in the area of soil erosion and sediment control to meet the challenges we see arising from reduced soil productivity and the possibility of increased Government involvement. Our program is emphasizing the identification of soil erosion problems and helping farmers to find and understand the problems and means of solving them. Farm Bureau members recognize the seriousness of soil erosion both as a threat to their ability to produce abundantly and also to managing their operation freely with minimum Government interference. We have been and will continue trying to meet the needs of farmers in a voluntary soil conservation plan.

I'd now like to shift to comments on the process the U.S. Department of Agriculture used in the promulgation of the RCA appraisals and draft reports. We are deeply disturbed that USDA put three 300-page documents in one spot in each county and then asked farmers to prepare comments. It is totally ridiculous to expect farmers to have the time or the background to be able to make constructive comments in this setting. We submit the summary prepared by USDA was too complex and did not give individuals the tools they needed to have input into this program which is going to have a tremendous impact upon individual farmers. At the very least, farmers should have been given more than just 2 months to study the documents and prepare comments.

We are also very concerned with statistical errors which were pointed out to us during the RCA comment period. For example, 60 to 110 million acres were left out of the analysis of wetlands. The

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value of an eroded ton of soil is at one point valued at 54 to 81 cents and at another point $6 per ton. Scenario III of the resource analysis places exports at a level which is to put the most severe strains on our resource base. That level of exports used in the analysis has already been reached far ahead of the projected year 2030. A great amount of reliance has been placed on what's called the "erosion yield simulator." This tool is unproven, undocumented, and is said to seriously underestimate the effects of soil erosion on crop yields. All these deficiencies make us wonder how reliable a tool RCA in its present form will be in sound policy development. We hope these problems, and undoubtedly others that we haven't caught, are ironed out before Congress acts.

We are pleased, Senator Jepsen, that you are showing this concern on what we believe to be a tremendously important issue. We hope that you will seek and support a soil and water conservation program in which the main function of the Federal Government will be to work as a partner with States and localities in the process of helping local people develop local programs to solve the soil erosion problem. Tax dollars spent by local government, letting them make the decisions, is an effective, productive method of solving problems. We also cannot underestimate the need for Federal Government to become involved in research. We reject the idea that there is no longer a serious need for agricultural research because we are currently overproducing. There are many facets of the soil erosion and water quality problems upon which little is known. We are concerned that we may be moving too fast and asking agriculture to do too many things upon which we know too little about the ramifications. We do not know, for instance, that if we control soil erosion on the fields, that we will see a noticeable improvement in water quality. We do not have an accurate means of measuring how much soil is actually being removed from a particular slope. We do not have enough facts as to what the long-term effects of some of the modern, seemingly beneficial tillage practices will have upon agricultural production. I could go on and on. Let me emphasize once more that much research needs to be done and that this represents a very legitimate and proper function for involvement from the Federal Government.

I thank you for this opportunity to express the views of the Illinois Farm Bureau on these issues of tremendous concern and importance to the future of a healthy agriculture and a clean environment.

Senator Jepsen. Thank you, Jon. I hope you come back again soon. Do you feel that soil conservation practices should be voluntary or should be mandated?

Mr. Scholl. Well, I think very definitely we have to try something voluntary right now. Just in the short time I've been working with soil conservation problems, I've seen a tremendous amount of enthusiasm and knowledge coming about on the part of the people I've been talking with. I think when people first of all realize there's a problem, especially in some of the flatter territory like that I come from, it's not always easy to see an erosion problem that really may be serious. I think you'll have a lot more attention paid to it, a lot more resources put to it and we can get the cooperation, by and large, of most of the farmers in the country. I don't think the voluntary approach, at least in the recent past, has really been given the chance it really deserves.

Senator **Jepsen**. I gathered from what you said you feel that the way the Government invited the review and comments on the seven programs, RCA proposals was, did you say ridiculous?

Mr. **Scholl**. Yes. Well, in a way.

Senator **Jepsen**. I agree with you, so go ahead.

Mr. **Scholl**. My being a full-time staff person, I tried reading through those three big voluminous volumes and it was difficult enough for me to try and get through all that information and maintain a coherent understanding and try and prepare comments to present to USDA. Like I said, I'm a full-time staff person and that's my job. I can imagine what it was like for a farmer to go in there and have the time to look at that, be able to read through the whole thing and prepare comments that really stated their ideas and comments distinctly. Like I said, at the very least, they should have had much more time to think about those things and perhaps more of an opportunity to make their comments and feelings known.

Senator **Jepsen**. Susan?

Ms. **Snyder-Smith**. No questions.

Senator **Jepsen**. Mac?

Mr. **McCarthy**. None. Thank you very much.

Senator **Jepsen**. Now I'd like to introduce Sheldon Kongable from Winfield. I have just learned he's in California and hasn't returned yet. That's fine. So we'll go to Oscar Steele from Riverside, Iowa. Oscar, welcome to the hearings. Please come forward, and you may proceed whenever you're ready. Riverside, Iowa?

Mr. **Steele**. Right.

Senator **Jepsen**. Are you beside a river; is that where you get that name?

Mr. **Steele**. Yes. The river carries some of our eroded soil, I'm sorry to say. The written report that has been handed to you will be—I will lift up a few of the points in it, and the fellow commissioner from Washington County soil conservation district will present another part of it.

Senator **Jepsen**. OK. Is that Jack Erwin?

Mr. **Steele**. Yes.

Senator **Jepsen**. Would you like to have him come up now?

Mr. **Steele**. It doesn't make any difference. All the help I can get would be appreciated.

Senator **Jepsen**. All right. Anything you don't lift verbatim out of this report will be made a part of the record; I can assure you that. You can summarize if you so desire.*

Mr. **Steele**. We thank you for the opportunity to present our thoughts and some of our proposals.

Senator **Jepsen**. Excuse me a minute. Jack Erwin is also from Riverside, Iowa.

Mr. **Steele**. Crawfordsville.

Senator **Jepsen**. From where?

Mr. **Erwin**. Crawfordsville.

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*See p. 328 for the prepared statement of Messrs. Steele and Erwin.

Senator **Jepsen**. I know where that is; that's up the road a piece here north of Mount Pleasant.

Mr. **Erwin**. Yes.

Senator **Jepsen**. Welcome, Jack and Oscar, and you may proceed just exactly as you want at this time. If you want to complete yours, fine, and go to him, if you want to mix it up; it's your show from here on out.

STATEMENT OF OSCAR E. STEELE, RIVERSIDE, IOWA; ACCOMPANIED BY JACK ERWIN, CRAWFORDSVILLE, IOWA

Mr. **Steele**. Today we face an awesome challenge in soil conservation, a challenge that is economic, social, and even moral in nature. The data about our soil resource conditions and what remains for the future generations cause us both awe and fear. We believe our present programs with their limitations and flaws have worked, but have not kept pace. The economics of our technological advancements and the U.S. farm programs have hindered and eroded the very resource we strive to maintain. We feel that the Government is wanting to use agriculture to its advantage, but, putting it very bluntly but politely, have not been really willing to pick up their share of the prevention and the protection that needs to be provided for this natural resource.

The problem is not new, but it's become critical. The future of our Nation's resource base, the soil, must receive a higher priority if we are to maintain soil and water for future food and fiber production, protect national security, overcome inflation, and meet long-range resource objectives. Throughout our presentation we are going to try to point out to you the reasons we feel society, not just farmers, is willing and wants something done as far as soil conservation is concerned. Inflation has been a problem to everything and everyone. We feel we have this particular problem and there needs to be certain priorities established. This is what we're challenging in particular with the Federal Government in providing assistance for.

In our district, the RCA data show a need for $2.9 million annually to meet and overcome the depletion of our resource base. Combined Federal and State technical and financial assistance available to our district today is approximately $225,000. This is only 7.8 percent of the needed rate. We have seen a dramatic increase in the demand for technical and financial help in our district. An example of that would be, in 1976 all Federal and State funds were allocated and there still remain 56 requests for financial help at the rate of $53,000.

In 1979, the demand was 115 requests and $249,000 that were not fulfilled. This is saying that to talk mandatory is a little premature because we have people willing and wanting to do conservation now if we have the financial assistance. We are not saying that at some point it may not be necessary, but particularly with our county, we present as evidence that if we have the financial assistance, we can accomplish a lot more. Our RCA responses received locally showed 100 percent of both rural and urban people felt soil erosion by wind and water was a serious problem in our county. National RCA summaries indicate a parallel view of our country's erosion problems, and for some reason, and I assume that it was legitimate, the Government chose to spend some money for a Lou Harris poll.

Senator JEPSEN. It doesn't have to be legitimate or make sense for the Government to do it. We have plenty of precedents for that.

Mr. STEELE. I feel more comfortable when you say it that way than when I do.

Senator JEPSEN. In a lot of areas.

Mr. STEELE. Yes, but be it as it is, the RCA study was conducted and the Lou Harris poll was conducted, and we are very pleased that that poll very nearly verified everything that was present on the RCA study. It's my assumption, and strictly mine, the reason the poll was conducted is they didn't believe what was in the RCA study. Basically, that is, people are willing to have Federal money spent for soil conservation.

That is pointed out in several ways in the formal paper that has been presented to you. In fact, it shows a 77-percent majority of the American people feel we have not reached a point in soil and water conservation efforts where we need to be concerned about holding down the Federal Government spending on conservation programs, and I think that is significant, because I have felt that for quite some time. Another interesting figure, we feel, found on the land inventory and monitoring study for our district shows 60,000 acres of land in the next 50 years will have lost its topsoil and an additional 150,000 acres will be depleted in the following 50 years. This amounts to 16½ percent of our district's land in 50 years and 58 percent 100 years from today having loss of topsoil.

Now, what does this mean? The way we've analyzed it by using data from the University of Missouri and Iowa State, which indicates on soil similar to ours that once this topsoil has been removed and the resource base depleted, there is approximately a 60-percent reduction in the land's ability to produce.

In a time when we are told and believe we are going to need more production, this bit of evidence shows it is important and the time is now that Congress starts looking at these things. I have made the statement in our commissioner's meeting, maybe unfairly, but the biggest problem in soil conservation and conservation over the Nation could very well be Congress itself.

I think the Lou Harris poll shows the people want it, and if the Government reflects what people want, we should be getting a bigger share of what is going on. I realize the pressures with inflation, as I mentioned before. In a manner of priorities, we think we ought to be a little higher than where we are. How can this be accomplished? I think there are several ways to do this. I do not claim to be an expert, but in visiting with the technical people that have helped us, their budgets have been cut in personnel and so forth. They are still using some of the same equipment that was used 20 years ago.

In our county, some contractors have better equipment, et cetera, than our technical people. I think this is an area that needs to be looked at if we're going to be providing and be efficient with the technical service. This may be one alternative rather than just additional people to accomplish this objective. Now, as far as trying to build up a case to show why Iowa is important, and I'm sure I know it's important to you, it certainly is to us, I will try to present this next information in the logical sequence.

The National RCA data shows the Corn Belt region—and by Corn Belt region we're considering Iowa, Illinois, Missouri, Indiana, and Ohio—has one-tenth of the Nation's food and fiber producing land. This same land also makes up nearly one-fourth of the Nation's prime farmland. We can sense the pressures that come onto this land. Now, that may be good. This means we're in a good place. On the other side of it, some of the types with slopes, when put under row crop production, are subject to erosion. These Corn Belt States have approximately one-third of the country's land with soil erosion above 5 tons per acre per year. Even more staggering is the fact that nearly one-third of the Corn Belt States' land having over 5 ton loss is in the State of Iowa. In our district we have 208,000 acres above soil loss limit. This is approximately 62 percent of our food and fiber producing lands. The point is that when the budget is formed, Iowa has a need. Not that others do not, but rather than just divide the budget by the number of States, divide it by soil erosion needs per State; this is my point.

Senator Jepsen. That's right. You can divide your time.

Mr. Steele. I sure hate to take it away from Jack.

Senator Jepsen. That's all right.

Mr. Steele. In this formal presentation we've also made comments in reference to the Iowa 2000 laws, and I'm sure that's familiar to you. We're very thankful the State legislature has done what they've done, and we think we should see some great changes. The other bit of philosophy or thinking I would present is that no matter where the moneys come from, we feel that the local soil conservation districts have a unique way of administering these funds. They do not have to handle all the funds, but we think they certainly have a unique possibility to set priorities as to how any funds should be used; this being ACP funds and State funds and so forth. The way Federal funds should be given and administered is by the soil conservation districts. I think this would certainly get the most mileage out of the dollars that are present.

An example might be the rural clean water program I have attempted to follow for several years. It has gotten hung up. The hangup, I feel, is in Congress, and again I may be wrong, but by just a few individuals, which we in Iowa do not have any chance to vote on with the seniority system. I think a fine program has really been damaged where we may lose an excellent program. This is also supported in the Lou Harris poll as to what people want. I will close by making another point as far as priorities are concerned.

In 1979 the East Central Iowa Council of Governments saw 144 million Federal dollars pass through their six-county area. Compare that figure to only $655,000 in the State and Federal cost-share moneys for soil conservation and you find soil conservation receiving less than one-half of 1 percent. For point-source pollution control they saw $44 million versus $655,000 for nonpoint soil conservation. Even more ironic was the $2.1 million spent for parks and recreation. I like to have fun too, but I really wonder if it seems that we care more about a place to play than to maintain our resource base for food and fiber production, not only for ourselves, but, more importantly, for our children and our children's children. I'm not trying to imply those other things are not needed, but the priority system I think could be redone.

Senator **Jepsen**. Thank you. We'll finish with the total testimony, then we'll come in with our total questions for both of you. You may proceed.

Mr. **Erwin**. My part of the program is on new approaches needed for economy incentives in favor of soil conservation: low interest loans for soil conservation and investment credit for soil conservation. These loans should be made available through our regular lending institutions, banks, our local PCA, Federal land banks, and the funds would be at half the going interest rate and available to the lending institutions' regular customers.

Those who cannot receive these funds can go through the Farmers Home Administration. Interest on loans would be adjusted yearly, depending on the going rate at that time. The Federal Government would subsidize the remaining half of the interest rate and make payment for such at the end of each year directly payable to the local institution, rather than running it through the person the loan is made to or the office. This payment would be made after a billing from the local lending institution and certified by the local soil conservation district. These loans would be for permanent, structural, and nonstructural conservation practices that have been approved by the soil conservation district. A few of these examples are listed in the paper. The amount of funds loaned would be based on the actual cost of establishing a practice by the individual owner. To aid the lending institution in setting up the 1- to 10-year program, the individual could obtain an estimate of the quantity and cost from the soil conservation district. The actual amount of the practice and eligible cost would be certified to the lending institution by the soil conservation district after the completion of the practice. Only those practices that have been satisfactorily completed would be eligible for the loan. It would exclude any funds cost-shared by the local or State or Federal Government.

This approach is similar to Iowa's own cost-share program we have in the State. Our second is the modification of investment credit. This modification on our income tax law would allow for investment credit on permanent structural erosion control practices, and the same would be eligible for them. To be effective in stimulating the application of soil conservation practices, an investment credit rate of 75 percent would need to be adopted on the actual cost incurred by the individual. An individual would be eligible to claim investment credit on soil conservation practices approved by the soil conservation district and meeting SCS design standards and specifications. Again, the soil conservation district could clarify the amount of practice completed to these standards and the actual cost incurred to the landowner. This would be similar to Iowa's tax exemption on large water and impoundment reservoirs. Eligible investment credit amounts not used in a specific year could be applied to carryovers and carrybacks similar to existing investment credit regulations. The remaining 25 percent not eligible for investment credit would then be eligible for standard depreciation. This investment credit rate would make the program competitive with the existing local, Federal, and State cost-share programs. What is significant is that it does not require large annual appropriations to meet our staggering conservation needs.

The Louis Harris poll supports these two recommendations of loans and investment credit. The survey shows on a couple of items that a program of loans and other financial help to farmers who volunteer to protect their water and soil is viewed as fair to both partners by 71 percent of the voters. Likewise, this approach is favored over others as the best way to obtain soil conservation goals by 35 percent of the public. Farmers and other landowners who take good care of their land would be permitted to pay lower taxes than those who don't. This was judged to be an equitable and fair system approach to financing soil and water conservation programs by 41 percent of the public. That concludes my part.

Senator **Jepsen.** Thank you very much, Jack. Just a quick comment on the Harris poll that was mentioned and brought up here where they surveyed that. For those who have been battling and trying to hold our own on the soil conservation, moneys and people, as we did last year and we're going to have to face again this year. You mentioned the Harris poll. The Harris poll itself was pretty simply put together. They have questions on it like Harpo Marx used to ask: "Who is buried in Grant's tomb?" "Do you feel it's important to preserve soil and water resources?" Almost everybody is going to say yes, so they would point to that and try to fault the poll itself.

We talk about education out here. As I've listened to testimony the last 3 days, things have been going around in my mind by way of testimony next spring. I hope some of the people who testified here will be able to come to Washington and testify. Education is part of my job, too. With your help, we can educate my colleagues and give them a hand on some things that they may feel do not affect many people. Who lives on the cement sidewalks of New York? They don't have any grass or soil erosions back there. They have other problems. Would you please comment, Oscar and Jack—Oscar first—on your feelings with regard to mandatory versus voluntary soil conservation practices?

Mr. **Steele.** I would probably repeat what I said earlier on that. There may be a time when mandatory is necessary, but I do not feel that it is now when we have 115 applications for assistance in our office. We can do more conservation—and more illustrative of that, mentioning just one practice, no-till, that may or may not be the answer. I feel personally it's a part of the answer; when people are aware of it, they're willing to try it and they're willing to do it. So I don't think we're negative; I do not believe that. Very few farmers get up in the morning with the idea of going out and seeing how much soil they can dig up and wash away.

Senator **Jepsen.** If it were mandated, would you rather it be mandated on a local or Federal basis?

Mr. **Steele.** I certainly think the local basis, and therefore I think the soil conservation districts are unique because things vary in just a few miles in what the answer to a particular problem is. Maybe Jack would——

Senator JEPSEN. Jack, could you please comment on that?

Mr. ERWIN. Well, I think the voluntary right now is the only way to go, in our area especially, because as you can see, we have farmers waiting to get money for soil conservation. I think if our economic situation had been better in the last couple years, I'm sure there would have been more done voluntarily without any cost share, possibly; but I just think right now there is no need for mandatory.

Senator JEPSEN. That's what a lot of people say. They have said that when a farmer has a profit, he's going to be more likely to do some soil conserving, too. It's ironic that the cheap food policy at the same time drives a person to get maximum use out of his soil and to plant fence row to fence row, which in turn makes soil erosion worse. It's a vicious circle.

Mr. ERWIN. I think investment credit would help out and make a big incentive that takes no appropriation money at all to help out.

Senator JEPSEN. And that would help on the farmer's taxes.

Mr. ERWIN. Right.

Senator JEPSEN. What about the young farmer who doesn't have anything to pay tax on? The young farmers, it has been stated in these 3 days of hearings, are the ones who are more willing to conserve soil. What do we do with those young farmers?

Mr. ERWIN. Well, I don't know. I can see their point. I think there's got to be some help on cost sharing that way, but I still think if we go back to these loans, guaranteed to help on the interest to these banks, if that young farmer is very much up and coming. I don't think very many banks or lending institutions, if he's showing a desire, would refuse him money for erosion control practices. They might not be able to do everything all at once, but I'm sure the banker's going to look over his interest, too.

Senator JEPSEN. Oscar, it's very obvious you've been a student of soil conservation for some time. When did you first become conscious of the need to conserve our soil?

Mr. STEELE. I guess it would have probably started with my father when he started—he was not a charter member of the district, but I'm trying to think of the year. I guess it would have probably been in the sixties with a cooperative agreement through cost sharing, putting in tile, closed ditches, and so forth.

Senator JEPSEN. Is that the first time you personally remember having the thought, "Gee, we should conserve our soil." When did that happen with you? What brought that about, and can you remember about when that was?

Mr. STEELE. It would have been—in the sixties I believe is when that project was done. We had gullies out there that you could have put a freight train in.

Senator JEPSEN. How old were you in 1949?

Mr. STEELE. I was born in 1933, so that would make—I'm so shook up I can't even subtract right.

Senator JEPSEN. About 16. In other words that's when you had a responsibility maybe for not only helping put in the crops, but to help on through during the summer.

Mr. STEELE. And the other thing when you started working in the field and you wondered—back at that time we were using the mold board plow—and why did it pull easy in some places and so hard in others. And at one time was the ground all covered with this black soil that would slide more easily on the thing? But seeing the project and what the interest of the neighbors was and wanting to make the land better and it just plain looked nicer and it was easier to farm. When I started working with it is when I got interested in it.

Senator Jepsen. So you said you had a project?

Mr. Steele. Yes.

Senator Jepsen. But also there was a project you could see?

Mr. Steele. Yes. May I make one other comment as far as the loans for those young farmers? I think there are very young farmers who are not as good a risk as Chrysler.

Senator Jepsen. I agree with that. Thank God I didn't vote for it. I'd have to crawl under the table.

Susan?

Ms. Snyder-Smith. No questions.

Mr. McCarthy. Very good statement. Thank you very much.

Senator Jepsen. Is Vivian Creswick here? We have received information that Vivian was coming in from Kansas City, even though she lives in Cantril, Iowa. She was to arrive about noon. We do have requests from other people who want to present testimony and statements although we have now come to the end of the ones we had on the list. We have two more: Mr. Hinkle, president of Jefferson County Farm Bureau, and Dwight Joy from Humiston, Iowa, Iowa Soybean Association. If possible, I would ask that those who are giving testimony and putting things in the record now try to hold it to about 5 minutes. After they have testified, we will then ask if there is anyone else who wants something in the record or would like to testify.

At this time, I would ask Duane Hinkle, president of Jefferson County Farm Bureau, to come forward. Welcome, Duane, and when you're ready, you may proceed. Do you have any formal written statement?

Mr. Hinkle. No.

Senator Jepsen. You may proceed.

Mr. Hinkle. I'm sorry about not letting you know before hand. It was supposed to have been taken care of by the Farm Bureau staff so they must have missed it.

Senator Jepsen. I understood you were to have been on. This is the only mistake we've made in 3 days so we're allowed one.

Mr. Hinkle. I don't know whose mistake it is.

Senator Jepsen. We appreciate you bearing with us and you may proceed.

STATEMENT OF DUANE HINKLE, PRESIDENT, JEFFERSON COUNTY FARM BUREAU, LOCKRIDGE, IOWA

Mr. Hinkle. I'm Duane Hinkle, president of Jefferson County Farm Bureau and I'd like to state our position on soil conservation. We believe that the responsibility for soil conservation ought to be focused upon the individual farmer and feel that that is the only thing that is consistent with the American ideas of individualized citizenship. We'll feel that the long-range results will be better if we can accomplish soil

conservation by incentives rather than mandatory directives. We are for cost-sharing money and in particular we would like to see investment tax credits. We feel the farmer should have a soil conservation plan and that this plan should include minimum tillage, crop rotation, and permanent structures. We feel that different areas of the country have different types of farming operations and that there is no book answer. That is why it is hard to set down on a piece of paper what it takes to preserve our soil.

We feel there should be an emphasis on understanding soil erosion and conservation measures made by the extension service, soil conservation districts, the vocational programs, agri-industry, the news media and our county Farm Bureaus. If there is willfull destruction of soil conservation practices, we believe that the amount of money that was left—or the dollar volume amount of useful life that was left on the structure should be paid back. I would like to go ahead and add some of my own comments. I don't think there is any question that we have to stop soil erosion through our farming practices. As I see it, there is only two ways; soil conservation structures and no-till planting of corn and soybeans. I have been watching no-till for 3 years now. I am familiar with the Buffalo no-till district man who is on his 13th year of no-till farming. He farms 600 acres and he wouldn't do it for that long a period of time if he wasn't successful. I have talked to him and am in the process of following what he has done. We feel that it's possible to farm the ground in such a manner that we will have no soil loss and can still have as good crops as what we have on conventional ground. In fact, we believe that with no-till farming we can build up a mulch from the previous residue and actually increase the tilth of the ground so that over a period of my lifetime the ground I farm will actually become better.

I would like to point out an example of this. We have a Hesston 3-ton stacker. We built a building to hold machinery next to our cattle lot. In building this we had to get a dozer in and move dirt so at the edge of the field we had a depression 4 feet deep, 30 feet wide and about 45 to 50 feet long. In the wintertime we put corn and hay stacks in this depression and after a period of 3 to 4 to 5 years the stocks rotted and we now have black soil in that area. The ground right next to it is Weller soil and it is brown soil. But this is blacker soil. I've seen this also in cattle lots where we put the stacks. It will build up and turn to the richest black dirt you will ever want to see. The first year I was skeptical of no-till. I walked acres upon acres for several Sunday afternoons, practically all afternoon, and I became convinced there was something to it. The first year we did 73 acres of no-till on every type of soil from Weller, which is some of your poorer soil to Haig-Grundy which is some of the richest soil in the world. The results were the corn yields were as good as they were with conventional farming. I would like to point out some people have criticized no-till farming in saying so and so does it and he doesn't get as good yields as some of the others. Well, many people that use no-till farming tend to be conservative in the amount of yield that they expect. Consequently, the yield is going to be less.

We go in and put down 220 pounds of nitrogen along with the phosphorus and potash to soil test. We put on the lime and secondary nutrients the soil test calls for. Consequently, we have production that is equal to the top producer that is doing it conventionally. Another thing, we put enough seed in the ground to make sure we have enough plants there in the first place so that we can go ahead and have this top yield. I do think some people that have tended to go toward this haven't maybe done as good a job that way as they could.

Senator JEPSEN. Are you saying that with no-till, it is a good policy to plant a little more seed than you would in a conventional method of planting?

Mr. HINKLE. What I said was I think the people that have been inclined to go to no-till have been more conservative in planting seed and putting down fertilizer. I do think it is a good idea—we plant 26,200.

Senator JEPSEN. What would a conventional normal seed amount be at that?

Mr. HINKLE. Well, about the same.

Senator JEPSEN. OK.

Mr. HINKLE. This year we put in over 160 acres of no-till ground. We chopped the stalks, planted, and then we made a first cultivation. Now, a lot of the reason we make this first cultivation is because of the fact we don't have anhydrous equipment that will change the anhydrous to liquid so we won't lose it when injecting the WH_3 into the soil. The other reason to make this first cultivation would be if you had weeds. Now, consequently, even though we're making this first cultivation we're doing it on the contour, and right where the corn is, there is 6 to 8 inches of soil that is untouched. You have the mulch in the center and you don't have the soil loss. Also, if you do your lay-by cultivation you're building up your ridge again.

If we could get the manufacturers to spend $1,400 more on a sidedress unit, we wouldn't have to make that cultivation. We could every year be building the ridge on the contour. Some people go so far as to just plant and spray and that's it. The only problem I see with this is you lose about 20 percent of your nitrogen.

There are many different methodologies of doing no-till. I have heard different people do it different ways in different areas. The only question marks I have in my mind is what happens if we get a wet fall and produce a lot of ruts in our fields. If you're on river and creek bottoms and don't have cows to eat the stalks, you can have a piling effect if you don't do conventional work. However, you don't get erosion in most river and creek bottoms so it's not as important. No-till work is more important on the hill ground and on the upground. I think it is just a matter of attitude. It will work, but it's hard for individuals that have been farming a certain way for 20, 30, 40 years to accept. The no-till planter is the major fast key to the solution to the problem we've been talking about. We've been talking about young farmers and cost. All right. I don't need a 30-foot field cultivator or a 30-foot disk or 30-foot cultimulcher. I don't need a large tractor except to pull the loads out in the fall. You also have sprayers in conventional. In no-tillage you have stalk cutters, you have a planter, sprayer, and row cultivator. If you take the amount of money that I, as a young farmer, would have to spend for the last four things compared to the first four things, you'll find out I can do it a lot cheaper and make a lot more money with no-till. I think the ultimate situation is when we combine no-till with conventional structures. I don't care how it's done.

If you can farm your ground with minimum tillage or any other way and you don't have soil loss, I say fine. I believe we can make as much money and do it with no-till, but if we can't, I still say for the future generations we have to farm the ground in a manner that the soil stays there. I think the important thing is to get the good operator involved. If we can get the good operator involved who uses the proper amount of seeding rates, the proper amount of nitrogen, et cetera, he will make an impression upon his neighbors and I believe that they will be more inclined to pick it up. Thank you.

Senator JEPSEN. Thank you very much. I will not ask you the question about whether you feel it's voluntary or mandatory in that I know your feeling is voluntary as far as soil conservation practices; is that correct?

Mr. HINKLE. I was stating the Farm Bureau position first.

Senator JEPSEN. OK. First, how do you feel about soil conservation practices; do you feel personally that they should be mandatory?

Mr. HINKLE. This is the problem I have with mandatory: I had a situation where I was dealing with ASCS, I had 6,000 bushels in the bin in the fall and wanted to have a loan on 3,000. I happened to mention to the lady while she was filling out the papers that I wanted to put 6,000 more bushels in the bin and she said I couldn't do that. She would let me take 3,000 out, but she wouldn't let me put 6,000 more in. Seems to me it should be reversed. Also one year when we went into the program, we had to have permission to put a number of sorghum in the ground. The permission came 3 or 4 weeks after the sorghum was in the ground. I do feel in the long run it isn't going to matter what I feel or what anybody else that sits here feels. If we as farmers don't do the job, other groups are going to force it to be mandatory.

Senator JEPSEN. So I guess you're saying that if we don't get with it, it may be mandatory through some other groups other than made mandatory by government?

Mr. HINKLE. Well, other groups working through government. We can't continue to do what we've been doing every year. I would also add that my father has had a little bit of trouble with no-till every spring. After the hard rains and soil erosion we had this spring, I delivered bulls and he went with me. When we came home, he said he'd have to change.

Senator JEPSEN. There is some bull at the end of it here, what's the first part? I'm serious.

Mr. HINKLE. My father is 63 years old and I was just saying it's been hard for him to accept my going out and planting no-till in the fields. This spring after we got the first set of torrid rains—I delivered polled Hereford bulls and he went with me. Consequently, we got to see quite a bit of the surrounding area. When we got home he said, "I'm going to have to change."

Senator JEPSEN. That reinforces and reemphasizes the point that was made time and time again these last 3 days. A demonstration project, something that can be seen, is the best way to promote soil conservation. And ideally if you're going to get farmers to practice soil conservation, if preparing a soil conservation plan for his farm and his land is one of the key steps toward the support of individual farmers for soil conservation, Iowa 2000 is working toward that end and hopefully we can get to a point where every acre in Iowa has the analysis done. If we could get that developed on a county level, if we could say to every farmer in Jefferson County, here's the situation, that would be a big giant step toward getting farmers to take action. Thank you. It's been very interesting.

Susan?

Ms. SNYDER-SMITH. No questions.

Senator JEPSEN. Mac?

Mr. MCCARTHY. No, thank you.

Senator JEPSEN. Thank you, Duane.

Next is Dwight Joy of Humeston, Iowa. Again I hope that you can limit your comments, if possible, to a 5-minute period. We're coming down the homestretch. Dwight, welcome. You may proceed. You're from Humeston, Iowa, Soybean Association, working with the 208 Planning Commission. We look forward to hearing from you.

STATEMENT OF DWIGHT JOY, HUMESTON, IOWA

Mr. JOY. I'd like to start a little differently by commenting on the fellow that stated at the start of the hearing that he was having trouble hearing. It was obvious to most of us in the audience that the person does suffer from a hearing problem. I couldn't help but notice how other people of the audience were snickering about the man's problem.

I bring this out because I also have a problem that not many in this audience would understand or therefore appreciate. My problem has to do with the way section 208 of Public Law 92-500 is being applied or at least being attempted to be applied to the watershed in which I live, namely the watershed above Lake Rathbun in southern Iowa.

[See attachment No. 1.]

ATTACHMENT NO. 1

[From the Times-Republican, Corydon, Iowa, Mar. 6, 1979]

CORYDON, CLEAN WATER, AND DEQ

In the months and years to come readers of The Times-Republican will be exposed to much information about water quality and its implications to the residents of Wayne County, both urban and rural. Originally, you will hear more about its effect on the cities and towns and less about agriculture. Water quality rules are much more difficult to establish for agriculture than for a municipality.

Corydon, Russell, Humeston, Allerton and Chariton are among 16 Iowa communities sentenced to "no growth" if water quality rules are strictly enforced. Farmers could, conceivably, be told how to farm. A governmental agency could tell them to quit planting row crops and switch to pasture.

This area is in this bind because it is in the Rathbun watershed and the lake behind the dam on the Chariton River has been given a high quality designation because of the swimming and fishing it provides.

It will cost a lot of money to comply, hopefully most of this will come from the state and federal governments because the general public uses Rathbun, not just those living in the watershed.

The no growth sentence is a distinct possibility, but it does not seem a just sentence. City councils, chambers of commerce and others are faced with an uphill battle. Much time, effort and money will be spent on this problem in the weeks and months ahead. Everyone in Wayne County is affected directly or indirectly.

Wayne County's stake is the most substantial because we have the most land draining into the Chariton River. Nationally, the president has asked for $75-million in Soil Conservation Service, 75 percent cost sharing funds to help farmers comply. The six counties in the Rathbun watershed have applied for about $50-million of these funds. Wayne County alone is asking for more than $28-million. We have a problem.

This is largely the message that Dwight Joy of Humeston has been preaching for many, many months. He has made himself one of the better informed citizens in southern Iowa and has spent much time and effort alerting the citizenry. You will, no doubt, hear more from Dwight on the subject.

Senator JEPSEN. As I indicated, once we knew what the problem was we had it solved.

Mr. JOY. I've been involved in the process of 208 planning for many years. A four-county 208 planning effort was funded with $325,000 of EPA money for the sole purpose of preserving the interests of Lake Rathbun, irregardless of the feelings of the surrounding residents of the watershed.

Following this, the statewide Iowa 208 planning process was initiated. I became a member of the southern Conservancy District Advisory Committee. It was at the first meeting of this committee that the question was asked by Campbell of Wayne County (from the minutes) Campbell asked if mandatory soil conservation is in the program. Beardsley of the Iowa Department of Soil Conservation replied: "We think that is the way it is going to go and this is the directive that EPA has given us."

Now, I've been mad ever since. Four years ago while I was down to Kansas City at a meeting of the American Soybean Association the Des Moines Register had a reporter down there. This was when things were starting and people didn't know what was coming. I had a chance to talk to him and I said:

Why don't you stop at the Iowa DEQ Office and Department of Soil Conservation Office and start asking questions just out of the clear blue sky. It would make an interesting story. He did this within a few months—I was surprised—but there is the story; that's 4 years old now.

[See attachment No. 2.]

ATTACHMENT NO. 2

DEQ PLAN IS NEW WRINKLE IN LAND USE CONTROL

(By Veryl Sanderson)

Can a farmer plant any crop he wishes, in whatever manner pleases him, and till the land in whichever method he feels is suitable?

He can, say regulatory officials, until his practices harm the public. Then, they say, the government will step in.

Mandatory land use controls over farmland are guaranteed under the Iowa Department of Environmental Quality's (DEQ) continuing planning process for water quality—a new wrinkle in land use control.

The long range planning system recently got under way with most farmers not suspecting that land use control is actually the issue.

Land use regulations have long been a controversial subject among Iowa and U.S. farmers, peaking several years ago in conflicts over proposed county zoning regulations. Many of those proposed ordinances still are gathering dust after concentrated protest from farmers and farm organizations.

Now, DEQ has been directed by the federal government to implement statewide plans to maintain and improve water quality.

The directive, which came from the Environmental Protection Agency (EPA), has been applauded by many who have been frustrated in achieving soil conservation measures.

"Frankly," says Larry Ferguson, DEQ chief of water planning and grants and program management, "voluntary soil conservation programs haven't, and aren't working for a number of reasons."

Dan Lindquist of the Iowa Department of Soil Conservation (DSC), agrees.

FUNDING PROBLEM

"There has been resistance in some cases. However, I feel the basic problem has been funding to carry out programs. Also, the national agriculture policy is for all-out production and many acres which shouldn't be put to the plow are being tilled," he says.

The measure to begin the water quality process came into existence in October, 1972, when the Federal Water Pollution Control Act became law.

Section 208 of the act specifies planning wherever there are severe area-wide problems, combined with industrial and municipal pollution of waters. Wherever these areas are not defined, it became the states responsibility.

The EPA never implemented section 208.

That oversight was challenged by the National Resources Defense Council in federal court. The federal court last year held that the 1972 law gave the states responsibility to develop water quality programs and directed EPA to fund the section.

Last November, EPA issued regulations that 208 would be implemented. In Iowa's situation, DEQ was designated by Gov. Robert Ray as the state agency which would have the assignment of developing a water quality plan.

The portion of 208 which directs itself at farmland concerns nonpoint pollution.

"Nonpoint deals with runoff from agricultural lands, forestry, mining and urban area. This is runoff into streams and waters which can not be identified as coming from a specific source, such as a feedlot or sewage treatment plant," Ferguson explains.

MAJOR SOLUTION

"DEQ's task will be to identify what water problems we have in Iowa. Water quality is established by the uses the water is being put to, such as fishing, swimming, or water supply for livestock and humans.

"We also will be identifying what pollutants there are in the water and what their effect is on the water quality.

"We feel that soil conservation measures will be the major solution to Iowa's problems, since Iowa is an agricultural state," Ferguson says.

"The DSC will be looking at where the pollution comes from. DSC will be looking at soil types, slopes, farming practices and how these affect loss of soil and its transportation into streams. DSC will be looking at how much pesticide, herbicide and nutrients move off the land and how," Ferguson says.

Lindquist, who is in charge of DSC's activity in the water quality program, says, "Section 208 has given an added dimension to DSC that has not received a lot of attention. We hadn't really focused in on water quality.

"We can suggest alternatives to nonpoint pollution, but we can't solve the problem. We can suggest which are the most acceptable, acceptable and not acceptable at all."

These solutions to water pollution from nonpoint sources are referred to as best management practices (BMP).

Lindquist emphasizes that some BMPs may be more expensive to implement than benefit gained. If that is the case, some other alternative may have to be found, he says.

Lindquist also points out that Iowa has already gone beyond voluntary soil erosion control in some respects.

SIX DISTRICTS

In 1971 the state legislature established six soil conservancy districts and set soil loss limit regulations for each district.

If a property owner is subjected to damage from soil loss erosion from another property owner, he can complain to the conservancy district committee, which, in turn, determines if the erosion exceeds the soil loss limit. If the committee determines the loss to be excessive, it can execute an administrative order against the alleged violator for him to correct the erosion problem and suggest alternatives.

The procedure provides for court action and a fine up to $100 a day if the violator takes no steps to remedy the soil loss.

However, the 1971 statute requires that the state provide 75 per cent of the funding to finance the alternative. If those funds are not available, the violator cannot be prosecuted.

Since 1971, those funds have not been available and the mandatory provision has been meaningless.

However, Lindquist says there have been cases where the administrative order has been issued and the property owner has complied.

"So far, none of the cases have gone to court," he says.

The DEQ plan calls for regulations to be recommended at the end of two years.

"Two years time does not allow for a true evaluation of our research. Mostly, we'll have to work from existing data. However, it does provide us with a means to pool together data which probably would not have been considered in a single program," says Lindquist.

"We will be focusing on conservancy districts 1 and 5 for more detailed information to see if our computer-established soil loss limits are realistic," he says.

NO BOTTOM LINE

"One thing to remember," says DEQ's Julie Lichtenberger, "is that 208 has no bottom line. It is expected to continue forever.

"However, this is the first federal law which requires that the public must be involved. And the public must be involved before the public hearing process," she says.

"A network of advisory committees will be formed. At the local level, each county will have a Resource Coordinating Committee with membership open to anyone willing to work on the problems during the next two years."

An extensive system of public participation committees has been established. Soil conservation offices in each of Iowa's 99 counties have the information and are responsible for the local committees.

Farmers in some areas have already expressed concern that special, commercial interests in lake and reservoir areas will exert pressure to establish unreasonable land use regulations to speed up development of those areas.

"I would hope that public participation would offset that," Lindquist comments.

Ferguson adds, "The first part of 208, the two-year program, is a fact-finding mission for the policy makers. The final result very well could mean mandatory controls, but with the public participating in the decision."

Mr. Joy. Somehow or other he told the truth about this bill that State Senator Forrest Schwengels introduced just this past winter and got passed—4 years ahead of his time. I'm not going to read what this thing says. It's very interesting, but you can guess it. But anyway, I was told by this same writer that after it came out in the newspaper, that the Des Moines Register was called up by the department of soil conservation and the DEQ and asked for a retraction. The Des Moines Register asked why do you want it retracted and they said: "Well, we'd just as soon it wasn't in the newspaper." Is that because it's not true? No, that's not because it wasn't true; they just didn't want it known. This tells you exactly what that bill was that Senator Forrest Schwengels introduced. And I can't blame everything onto him, but somehow or other he seemed to want to take the credit for writing that thing and it was written years and years ahead of that.

There is the bill, if you want to see it. I recognize several people in this room and if it's like other things I've been involved in, the soil commission sent out a letter to all their county representatives and they said be there. OK. When they established the 208 State thing, you'll find out most of them are soil commissioners because they were told to get there. Here is a list of the members showing how many of them are SCS.

Senator JEPSEN. Dwight, we're trying to gather as much information by way of solutions as possible—

Mr. JOY. Right.

Senator JEPSEN [continuing]. For soil conservation.

Mr. JOY. That's what I'm working toward. You have to realize my angle in this thing because I'm just not with the SCS.

Senator JEPSEN. All right.

Mr. JOY. I read this in a newspaper just a day or two ago and it—president of the American Farm Bureau, Robert Delano. In the very last paragraph Delano said:

> The next U.S. Secretary of Agriculture should be a farmer, one who would give more direction toward production of agriculture rather than toward the environmentalist and consumer as provided in this administration.

I know your'e a good Republican, I know Forrest Schwengels is. Most of what he says I agree with, but he's talking about mandatory and yet he says it's voluntary. Voluntary is the only way we can go. I have this special problem about living by that lake down there. It didn't make a difference what the committee members said, it always come back mandatory.

Senator JEPSEN. Dwight, the buzzer has rang. Can you summarize what you're doing in the next minute?

Mr. JOY. May I read two paragraphs? It's a letter to the editor out of the Des Moines Register and I think it is the key answer.

Senator JEPSEN. This will summarize and conclude your argument?

Mr. JOY. Right. I am delighted to see the interest and concern that the Register and Tribune have taken lately in soil conservation. However, I am puzzled. Why don't you writers ever point out that the low price of beef in recent years has forced farmers to cut their losses by selling the beef cattle and planting row crops on the steep hills. If those beef cows were still out there, the soil would be too. Consumers can help save our ground by buying a round of beef. In my area there isn't even anybody that has any fences anymore.

Senator JEPSEN. Thank you very much. And I know how you feel about the voluntary-mandatory thing so I won't ask you the question.

Mr. JOY. I'm slightly different because I usually am a little mad.

Senator JEPSEN. OK. I'm glad to see you smiling today. Thank you very much. Is there anyone else?

Welcome, Mr. Burton Wilson, Prairie City area farmer. If you could confine your remarks to the 5 minutes we would appreciate that. I assure you that your written testimony will be put in the record as if read and if you want to summarize it, go ahead. You may proceed, Burton. Thank you.

STATEMENT OF BURTON WILSON, PRAIRIE CITY, IOWA

Mr. WILSON. I'm Burton Wilson, Prairie City area farmer. I think I have two things strongly in my favor; I was born and raised in Iowa and I'm a Iowa farmer and that puts everybody else just a step down the ladder from me. I've been involved in 208 planning for 3 years and if you take a look at page 2 on the draft that we presented, I think we're missing one thing on setting up structures and soil conservation.

The 350 debris basin is ignored by the Soil Conservation Service and it is a terrific instrument to use in the short term. The new definition of 350 debris basin must be altered to:

> A tube or tile outleted barrier or dam (with an emergency spillway), designed to empty into a 2-inch runoff in 24 hours, constructed across a waterway or at other suitable locations to form a silt or sediment basin.

I've been involved since the early 1940's with soil conservation work up through Buffalo tilt slot planter, strip crop and everything that come along with it. We have about 5 mile of seeded back slope terraces. And Soil Conservation Service said that there are 6,200,000 acres in Iowa that needs to have terraces.

This debris basin can be built for about 3 or 4 percent interest factor on the cost of building these terraces and that's considering for 10 percent interest and zero inflation.

I would like to run through the advantages of the debris basin. Immediate 95 to 98 percent sediment control in treated areas. Silt trapped and stored on farms where it originated so it can be redistributed at a later date. Nonsuspendable pollutants trapped in the same location. Stream bank protection below structure. Reduce flooding by slow 24-hour release. Immediate temporary nonpoint control until terraces or other conservation practices are completed above the trap. Project can be accomplished by using present equipment and operators. That's one of the disadvantages of the terrace system. You have to acquire many thousands more dozers. Dozers can work around—all days of the working year because you're out of the crop area.

It can be accomplished with ease within 2 years; it can be accomplished within a year by using two-thirds of the equipment that's available in the State; 75 percent cost share of a $180 million, which it costs to build these structures; $135 million is the way of accomplishing the most for the least. Practice will complement any future water quality or soil conservation practices.

Practice can be terminated at any time soil loss limits are met on the above watershed. If your goal is high quality water, it can be accomplished on this 6,200,000 acres by 1983 for 10 percent of the cost of a nuclear powerplant. It's actually about 6 percent of the cost of a nuclear powerplant. The farmer will actually see how much he's losing. That's what swung me.

We built some of these on fence line traps and put 11 feet of silt in them in 18 months. It shocked us so much our goal now is to put all water running off the land through a tile. The total cost of a completed temporary debris basin program would be less than the interest factor on a projected terrace system for 3 to 4 months using 10 percent money, zero inflation factor. I get really excited over this thing and I've been unable to get other people interested in it. It's a short life, short term—10 years or less—but the cost and accomplishment—you stop the dirt on the farm where it's at and the pollution. And it's like closing the door the first day of winter; you can insulate and weatherstrip the doors and the windows, but the first thing you need to do is close the door. Thank you.

Senator **Jepsen**. Thank you very much. It was very interesting. Ironically enough, the testimony given by the Department of Transportation on the two previous hearings listed some of the same ideas.

The Director of the Iowa DOT, George Calvert showed some slides of silt basins yesterday. It's not quite the same thing, but has some of the same principles. I appreciate your comments. Do you feel that soil conservation and practices should be voluntary or mandatory?

Mr. **Wilson**. Voluntary until it just has to be done. I think with encouragement and education—we asked in the CDAC meeting in the Des Moines River basin that they take some money and get it to all sources of the news media to educate to the farmer this was coming and the response to that was they didn't have any money. And we've tried many times to get this back to the public in force. I think mandatory is a last resort.

Senator **Jepsen**. Thank you very much. Thank you. Is there anyone else? Yes, sir?

Mr. **Meyers**. Senator, if I could, I'd like to make an observation and a few comments.

Senator **Jepsen**. Would you then please identify yourself?

STATEMENT OF RON MEYERS, FAIRFIELD, IOWA

Mr. **Meyers**. My name is Ron Meyers and I am from the rural Fairfield area. Senator, you said earlier that a picture was worth a thousand words so with your permission I would like to use the blackboard to help me make an observation.

Senator **Jepsen**. You're welcome to use it.

Mr. **Meyers**. As I have sat here listening to the various experts and concerned citizens talk about soil conservation, a picture has formed in my head which I'd like to share.

Someone testified earlier today that 200 years ago we had about 18 inches of good topsoil and today we have approximately 8 inches or a little more than one-third of what we had to start with.

It was further stated that this loss of 10 inches of topsoil hasn't been something that has happened slowly over a period of 200 years but rather it has been over the last 50 years.

The point I hope my illustration will make is that the era of farming 200 to 50 years ago by today's standards is generally regarded as backward. Yet, this serious loss of precious soil has occurred for the most part during the last 50 years which is regarded as the modern era of farming.

With all our education and technology are we really smarter than we were 50 or even 200 years ago? I believe that in the field of soil conservation the answer has to be no.

Our forefathers had for 150 years left our soil so future generations had something to work with. It frightens me that today's generation doesn't seem concerned about the future.

One very simple example that comes to mind is the amount of farming through ditches and draws which are left in a very vulnerable condition for erosion. The sad part of this is that in most cases it is simply a matter of flipping a lever to leave these ditches and draws in grass which would protect them from erosion.

Though this seems like a slight problem individually, when you multiply it around the countryside, it is a serious part of the overall problem.

Thank you for your time.

Senator **Jepsen**. Thank you for your comments. Yes, sir? Would you identify yourself, and please give us your name and address. I know who you are, but we'll get it on the record.

STATEMENT OF L. J. DENMIRE, KEOKUK, IOWA

Mr. **Denmire**. L. J. Denmire. I live in that part of Iowa that Iowa—Missouri doesn't want, the Indians wouldn't take back. I live in Lee County and it's the roughest part of the State of Iowa. But I would like to inject into this discussion about putting concrete over our good Iowa land. And this has been very near to me as I drive to Waterloo, Iowa or Des Moines and I see the cities spreading out and covering up prime-1 farmland when I'm trying to transfer many of the hills that I have into land that would be good for nothing but hay and the cost of maybe some of them will be up as much as $500 an acre. And I can't go out and buy the land, but I'm trying to change some of my hills.

Then another thing, when you say about mandatory or whether it will be voluntary, I went over to my neighbor and asked him to come to this hearing with me and he says: "I want no part of it." He says: "that farm is mine. It doesn't belong to anybody else and I'm going to operate it the way I want to."

Now, that is not the right way. I only own this farm for a short time. We had the first terraces on our farm in Lee County and that was almost 50 years ago. And some of my neighbors still laugh at doing anything like that. You have got to make it compulsory someday. We don't want that, but there's some people that will not accept this thing, will not conserve the soil or do anything for posterity.

Senator **Jepsen**. If we do that, should it be made mandatory and administered from the State level or Federal level?

Mr. **Denmire**. I think it should be kept on a State level.

Senator **Jepsen**. OK.

Mr. **Denmire**. And with the county committee. I don't like to see them come into my farm and tell me what to do, but I'm not going to be here to farm this 100 years from now and maybe 10, maybe 1, but the land is there and somebody's got to take care of it.

Senator **Jepsen**. Thank you very much. Are there any others? Yes, ma'am? Would you please identify yourself for the record?

STATEMENT OF LAURENA HAMMES, KEOKUK COUNTY SOIL CONSERVATION DISTRICT COMMISSIONER, SIGOURNEY, IOWA

Mrs. **Hammes**. Laurena Hammes. I live on a farm. I'm an educator and also an SCS commissioner. And in listening to all this testimony I think probably most of the points I would like to make have been made, but there are a couple things I wanted to say. One thing alluded to was education. Education is the key to the future. Young people are going to grow up and be the farmers and the people of the future. I think education might help to solve the problem because sometimes it is more difficult to get somebody to listen to you after they have been farming a certain way for 40 or 50 years and they're not apt to change at that point. You asked if conservation education was taught or could there be a class in conservation education. DPI indicates conservation education should be taught K through 12, but they do not state whether it should be 5 minutes a day or 5 minutes a year, just that it should be taught. It depends upon the teacher, their interest and the direction they are given, whether there is very much conservation taught.

Senator **Jepsen.** Would you——

Mrs. **Hammes.** Some testimony alluded to the fact that money is distributed very unequally. The USDA received $11 billion for their programs in 1978. This just isn't money spent for conservation; it's forestry, food stamps, various things. EPA received $12 billion for point pollution in cities and towns. Of the $11 billion received by USDA, $190 million went to the entire United States for conservation, yet we are told agriculture is the biggest culprit in point pollution. The city of Des Moines received more than $190 million just for their sewage control. So if you stop to think about the soil, placenta of life, and how many things that are not connected with the soil in some way or another, our priorities are wrongly placed. There isn't anyone that can produce food besides plants and where do we find them? In the soil. Everything is—has its basis here in this placenta of life and if we don't take care of it today, where are we going to be tomorrow?

Soil and water go hand in hand. Water, the liquid of life; 20 percent of all the fresh water in the world is in our own Great Lakes. If you look at some of the rivers and streams where that soil is, what does this tell you about the future? What is that water going to be in the future? You can't get that particle of soil off the land if you keep the water where it belongs also. I was in Europe about 3 years ago and there was one thing pointed out to me. It made me appreciate more what we have here. Now, true, you don't find the waste in Europe Ollie was talking about. They don't buy a new car every 3 years. When they buy a car, it's about a lifetime thing because of the expense; their gasoline is much more expensive. Even in Poland, which is a very poor country, $2.50 a gallon and we think we're paying a terrible price at what we pay now. But they work so terribly hard. Poland is the Iron Curtain country—where farmers own their own land; only about 50 percent of them still do. Czechoslavakia, Hungary, nobody owns any land; everything belongs to the state. You can't even have a business employing more than four. Eighty percent of what that farmer produces on that 20 acres, if that is what he farms, goes to the government. The 20 percent he gets to support himself.

I think we have so much that we really don't appreciate what's here. I think the handwriting was on the wall 10 years ago, for instance—even more than that—for motor companies but yet they still produced bigger and better until they're to the point where we can't afford to buy the cars because they're too expensive. Well, let's don't do that with the soil. Let's save it today and not wait until some time in the future when the soil isn't going to be there. What are we going to do without that placenta of life that produces the plants, from which all life comes? Thank you.

Senator **Jepsen.** Thank you very much. I have, quite a number of people waiting in a meeting over in Mount Pleasant. We are now 45 minutes later than we had scheduled, but I still want to make sure that everyone does have an opportunity. Is there anyone else? Could we please be brief. I will recognize the gentleman here. Will you state your name and where you're from? And please, we are going to have to enforce the 5-minute rule; if you could make it shorter, we'd appreciate that. If you have anything in writing, we will put it in the record.

STATEMENT OF KEITH SHAFER, FAIRFIELD, IOWA

Mr. **Shafer.** Keith Shafer; former commissioner. I've worked in soil conservation throughout the State in years past.

Senator **Jepsen.** Welcome, Keith.

Mr. **Shafer.** I feel that one important aspect of conservation has been neglected here this afternoon in as they have not mentioned our forestry reserve which I understand has—the forestry area in Iowa has been reduced by half since around the 1950's; it is one of the most effective ways of conserving soil and stopping runoff. Probably the main reason this has deteriorated so is that economically it is not justified to keep land in timber. The same with many of these other conservation practices. If a farmer could pay off his mortgage and educate his children, he would adopt these practices that help. The hardwood timber of Iowa is losing—is not very important anymore, but there should be research in utilizing and conserving these hardwoods that remain. Regarding the mandatory aspect of conservation—can you visualize going to an Iowa farm of a reluctant person and building a terrace system? He could conveniently go to sleep the next day driving the plow and take out the whole $1,000 worth. What I'm getting at is how can you enforce conservation on this back 10 acres? It's probably impossible in a free society. I believe that's my main point I want to bring out.

Senator **Jepsen.** OK. I don't need to ask you the questions about voluntary versus mandatory do I?

Mr. **Shafer.** No, sir.

Senator **Jepsen.** Thank you very much for your testimony.

Yes, sir?

Senator **Schwengels.** Senator, I think I express the feelings of everybody here, that was here, thanking you for giving the people of southeast Iowa an opportunity to discuss your committee and the problem of soil conservation. And I personally want to thank you for your kindness to me and thank you very much for selecting Fairfield as the site of your hearing.

Senator **Jepsen.** Thank you. There is one gentleman who had his hand up. Do you have something for the record?

This is the last witness today. Would you identify yourself?

STATEMENT OF S. R. WILLIAMSON, FAIRFIELD, IOWA

Mr. **Williamson.** Williamson, S. R., a resident of Fairfield for about 50 years. I've been fortunate to have been involved in land ownership and conservation since 1971. I've had a project underway and if the project is completed on schedule, 90 percent of the water leaving the 200 acres will be leaving through a pipe. Fortunately, I did not have to depend on this land for a living.

There is no way that the young farmer going into the land today can afford to make the capital investments that are required if he's going to do the terracing and soil conservation work that is required. One of the things that could help—could be helpful to these people that are interested in doing this and—an example of my program for this year, the original estimate was $7,400. The actual costs were $5,685. The cost share via the ASCS office was computed and rounded $5,685 to $4,687. There is something in the program that does not provide a true cost-share approach. And the fellows that really need it ought to have a better arrangement than what this is. The program coming through the State conservation services will come considerably more truly being a 50-percent cost-share program. I think the boys who are trying to do this on a voluntary basis should have a little more help.

Senator **Jepsen**. Thank you very very much. The message I got from you is those who want to conserve soil on a voluntary basis. I would like to express my very special thanks to several individuals who helped with this hearing. The first is Charlie Barnett from the chamber of commerce. I want to thank Wanda Rehkof for helping with the registration table. Also, Ernest Nelson, supervisor. Thank you, Ron Rominger for the public address system; he's with the Fairfield Daily Ledger. And, of course, to State Senator Schwengels, and State Representative Floyd Mill and for their assistance. I also want to thank my field representative, Dick Chambers, in the identification of many of these folks who have testified so ably today. I appreciate your help.

The following written statement has been submitted to the subcommittee and made a part of the record: Merle Hasenclever, chairman of the Lee County Conservation District. It will be made a part of the record.[1] I thank you all for your participation. Again, I assure you the testimony we received here today will be used by the subcommittee and subsequently the full committee and subsequently the Senate of the United States of America next year when they review and develop their new soil conservation program for the 1980's. I hope we can get some of the things done by way of direction and leadership, which have been recommended and suggested here in the last 3 days. I appreciate your time. Thank you for your cooperation and this meeting is now adjourned subject to call of the Chair.

[Whereupon, at 2:25 p.m., the subcommittee adjourned, subject to call of the Chair.]

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[1] See p. 310 for the material supplied by Mr. Hansenclever.

APPENDIX

STATEMENT OF HON. RUDY BOSCHWITZ, A U.S. SENATOR FROM MINNESOTA

Mr. Chairman, I want to congratulate you for conducting these three days of hearings on soil conservation. The United States has no greater resource than its soil. However, this resource has been and will continue to be in great jeopardy unless the federal, state and local governments, along with the individual farmers, take steps to conserve the soil.

No better place is there to hold hearings on soil conservation than in the State of Iowa. Iowa, like my home state of Minnesota, has been plagued by soil erosion due to wind, drought, and flooding.

I have been particularly concerned with the federal government's role in preserving our nation's soil. I feel that the federal government has failed to place enough emphasis on this issue—directing its attention to more short-run problems rather than making the necessary long-run commitment to conserve and preserve our nation's soil.

The federal government's failure to properly address this issue was most recently brought to mind with the passage of the Agricultural Act of 1973. Title X of the Act provided means by which the Department of Agriculture could provide incentives to landowners for establishing protective cover on diverted acres through a federal cost-sharing.

But, with an overall increase in demand for U.S. farm products during the early 1970's, including the Russia wheat deal of 1972, agricultural policy makers changed their outlook. Conservation needs were put on the back burner while we occupied ourselves as a nation with trying to increase our production.

Now the pendulum has returned to the long-term problems of overproduction and we are facing the possibility of another set-aside program for 1981. Billions of dollars have been expended for land retirement since 1977, yet farmers still do not know whether or not there will be a set-aside program a year from now.

Stubble from a previous growing season, annual seedings of oats and perennial plantings of grasses have protected some of these lands from erosion. But, it is well documented in the Midwest that this cover is very inadequate.

Even in 1978, when the USDA required protective covering crops, the Department documented that 30 percent of the fields had no coverage (not even stubble from the previous crop year). This figure was derived from a USDA survey of over 900 fields in twelve states. Last year, even though there was a set-aside, no seeded cover was required, and voluntary vegetation (weeds and grasses) was considered satisfactory compliance for conservation purposes. This is simply not good land management policy.

Since the annual set-aside program began in 1961, 30–50 percent of the fields have been left virtually without protective cover because of the costs of seeding and because of the indifference on the part of some farm operators. Even where protective cover was established, it typically was maintained for less than six months of the year. The result has been that federally-diverted acres are some of the most neglected and erosion-prone lands that we have.

Ideally, our diverted acres would be protected by perennial cover crops which would enrich and protect the soil year round. But, it should be recognized that it is unrealistic to encourage multi-year sign ups for farmers because of the uncertainties of supply and demand for agricultural commodities. So, if the land is to be protected, it would appear essential that it be done through a federal-state incentive type provision in the Farm Program.

These incentives could be offered in one of two forms: (1) property tax and income tax incentives for farmers who buy conservation tillage equipment or who install conservation practices; and, (2) reimburse farmers participating in the set-aside program for the cost of their seed in establishing perennial cover on set-aside acres.

In the Midwest, this might include such species as alfalfa, sweet clover, red clover, and several species of grasses. Farmers could be reimbursed on a per-acre basis so long as they kept the same tract of ground in the program for a minimum of two years. In the event that a farmer chose to drop out of the program before fulfilling the contract period, he would be asked to reimburse all of the seed costs.

On the surface, requiring a cover crop without incentives for cost of establishment might appear as the more practical alternative. In the future, Agriculture Secretary Bob Bergland warns, you may not be eligible for government programs unless you are following a conservation plan on your farm. However, it is important to note that the USDA has never been successful using this voluntary approach under the set-aside program and I find no real cause for optimism now.

This is not to say that conserving the nation's soil should be left entirely up to the federal government. In fact, a recent court decision made in this state ruled that a soil conservation district can enforce limits on soil losses under Iowa's conservation law. The law states that a landowner whose land or property is being damaged by sediment coming from land of another property owner may file a complaint with the soil conservation district.

What the court has effectively stated in their decision is that soil erosion can be a nuisance to an adjacent landowner, as well as endangering the farmer's own productive base. In the end, this Iowa court decision could prove to be a model for other states and the federal government—that being farmers have the responsibility to conserve their soil. Because, once soil leaves a farm, it becomes a public concern.

Therefore, I feel that the federal government, in cooperation with the states and the individual landowner, should embark on a new soil and water conservation policy. Without such a national policy, the United States will continue to lose much of its most important natural resource—its soil. Thank you.

Statement of Cooper Evans, Grundy Center, Iowa

For the past fifteen years farming has been my principal business. During a part of that time I served with a county board of soil commissioners, and I have several thousand feet of parallel bench terraces on my land. For five years I was a member of the Iowa General Assembly and was active in drafting soil conservation legislation. Now I am a candidate for the United States Congress in this district.

In these roles I have come to have some understanding of the soil erosion problems of this state, and have discussed the subject with many people both on the farm and in the cities.

As a result I have reached the following personal conclusions on the subject:

1. There is general awareness of the seriousness of the soil erosion problem and a strong desire by the public to have the problem solved.

2. The Soil Conservation Service and the county boards are doing an excellent job, within the limits of their resources.

3. The dimensions of the task of permanently solving the problems of soil erosion are far beyond the limits of the resources, especially money, now being allocated to that task.

I have several suggestions for changes that I believe might help.

In the area of changes in the administrative policies of the present program there are three points that are most often raised to me by other citizens. Admittedly, some of these concerns may be more a matter of perception than of substance:

1. More work of lasting value would be accomplished if most federal cost share funds were used only to install permanent erosion control measures, as opposed to using such funds for temporary practices or for purposes which primarily increase the productivity of the land. It is true that the abuses in this area are not nearly as common as they once were, but there may still be room for improvement. The state of Iowa now restricts use of its cost share funds to such permanent practices. Perhaps the federal government should also move in this direction.

2. There are some complaints that most of the cost share funds go to the largest farms and that the smaller farms and projects receive low priority. Policy should promote an equitable distribution of money between large and small projects to the extent that farmer interest in small projects allows.

3. At the county level, I believe that relatively more decision making power on conservation matters should be shifted from the county ASCS committee to the county board of soil conservation commissioners. Most final decisions on soil erosion control are made by the ASCS committee whose natural interest tends to lie more in the area of production and pricing problems than in the preservation of our soil.

In the years ahead it is possible that we may have a new land diversion or set-aside program in connection with efforts to stabilise farm commodity prices. If so, the soil conservation benefits of such a program could be vastly improved over benefits achieved in the past. To accomplish this, county boards of soil commissioners should be given some authority to determine which parts of a farm are diverted. In the past, the acres set aside were those which were least productive. In the future the land to be idled should be that which will most effectively preserve the soil.

On the subject of increasing both farmer participation and the amount of resources available for soil conservation, I have four suggestions that I believe deserve further study and consideration:

1. Any of a number of possible tax incentives for permanent soil conservation measures would certainly increase farmer participation. These include both exemptions and tax credits. They could apply to the tax on ordinary income or to that on capital gains, or similar exemptions or credits could be used in connection with the inheritance tax. Such measures would certainly increase private investment in soil conservation. I understand that legislation of this type has been introduced in the Congress and I hope some such measures will be adopted.

2. Voluntary check-offs on the sale of farm commodities at the producer level should be considered, as a means of increasing the funds available for soil conservation. Such check-offs have been very effective in financing the programs of a variety of producer groups. I believe farmers would accept such an approach and that it might raise $50 million a year. This should also increase farmer interest in participating in soil conservation projects.

3. A major goal of the county soil conservation boards has been to convince land owners that they should have an approved soil conservation plan for each piece of property and should make reasonable progress toward achieving the goals set out in the plan. It has been suggested to me that there would be merit in making the preparation and approval of such a plan a precondition of eligibility for participation in any of the ASCS benefit programs. If phased in over a reasonable period of time this would seem to me to be a reasonable requirement, which might cause lawmakers from urban areas to be more likely to support appropriations for the ASCS.

4. Some years ago in the Army I spent considerable time with heavy construction units of the Corps of Engineers. The earthmoving capabilities of such units is very impressive. In time of peace they have few real missions other than to maintain a state of readiness. Perhaps some of this capability could be brought to bear on the soil conservation problem with benefits to both the Army and the conservationists. A pilot project involving a county board of soil commissioners and a small engineer unit would be an interesting experiment.

Statement of Dr. Frank Schaller, Iowa State University, Ames, Iowa

SOIL CONSERVATION, THE FOUR-MILE CREEK RESEARCH PROJECT

I appreciate this opportunity to express my views on soil and water conservation problems and needs and to discuss the Four-Mile Creek Research Project.

I recently retired from Iowa State University where I was employed for 30 years as a researcher and extension agronomist. My major area of interest was soil management with much time spent in the soil and water conservation area. During the last half of 1979 and the spring of 1980, I worked on the Four-Mile Creek research project in Tama County, Iowa.

Soil is the major source of food and fiber and in all likelihood will always be the major source of human substenance. This, it would seem, mandates that our nation's lands be properly used and protected to meet current and future needs of a growing national and world population. There is no other visible alternative.

The U.S. Soil Conservation Service is to be commended for providing an up-to-date inventory of the nation's soil base. This is the National Resource Inventory (NRI) reported in the USDA document "Soil and Water Conservation Act", Appraisal 1980, review drafts Part I and Part II. The appraisal provides the best available information on land use in the nation and the erosion problem.

Currently, I am privileged to be working on two task forces organized by the Council for Agricultural Science and Technology (CAST) with headquarters in the Memorial Union, Iowa State University. Factual statements are being prepared by scientists from several states on two subjects (1) Land Preservation and (2) Soil Erosion. These concise reports make every effort to analyze in an unbiased manner current trends, problems and needs. It is of interest to note that both reports examine past, current and alternative policies which guide the development of land use and conservation programs at federal, state and local levels. The reports are due for completion by year's end and will be distributed to decision makers and others. Based on the experience of other CAST reports, these two dealing with our land resource should be very helpful to persons with an interest in this basic resource. References are provided for more detailed study.

Iowa has always been a prime mover in the betterment of land use and soil and water conservation efforts. Perhaps this should be the case since we live near the center of the richest producing area in the world, the Corn Belt. Much progress has been made in the last 40 years. Yet it is well known that much remains to be done. Farming methods have changed over the years and pressure to produce has increased.

NRI data show that about 43 percent of row-cropped land in the Corn Belt is composed of highly erodible soils. Erosion rates of 5 tons per acre per year or more are common in this area and rates of over 10 tons per acre per year occur on 19 percent of the row-cropped land.

NRI data reveal that the average soil loss in Iowa is about 10 tons per acre per year. At this rate, it takes about 15 years to lose an inch of topsoil which is much faster than soil can be redeveloped. Many areas in Iowa lose soil much faster than average. For example, a long time study by Dr. John Timmons on 140 farms in western Iowa showed an average annual soil loss of 17.2 tons per acre per year. Rates up to 40 tons per acre occur on some fields. It was also shown that the rate of erosion had increased 22 percent since 1957 because of increased farming intensity.

Four-Mile Creek Research Project

The development of agricultural technology has played a key role in maintaining and improving crop yields in spite of serious erosion. Agricultural scientists continually point out that growth through technology appears to be leveling off. One reason for this leveling off is often credited to inadequate research funding. One example of funding failure may be the Four-Mile Creek Research Project.

The Four-Mile Creek research project is being coordinated through ISU and involves the departments of Agricultural Engineering, Agronomy, Agricultural Economics, Sociology and Anthropology, and Animal Ecology. The main funding is provided by the U.S. Environmental Protection Agency (EPA). Special funding from the U.S. Agricultural Stabilization and Conservation Service (ASCS) provides cost sharing monies for implementation of conservation practices in the watershed. The U.S. Soil Conservation Service provides technical assistance and several other agencies provide general support and advisory services.

The major purpose of the research is to obtain information to help in achieving nonpoint pollution control and meeting the nation's water quality goals. The major pollutants are the sediments from soil erosion and associated nutrients and pesticides. More details about the project are attached.

The project was designed to run for 5 years. The first two years were needed to get conservation practices on the land then at least 3 years for measurement. The first year was short because of delayed funding and now after two years, it appears EPA funding will no longer be continued and the project may be terminated or seriously curtailed.

The watershed is about 12,000 acres in size and involves 68 farmers. At present, many kinds of data are being collected ; others are still to be added. For example, rainfall is now being measured at 6 locations. Stream flow is being gaged at 8 sites. Sediment produced by water runoff is being sampled at several sites and analyzed for particle size and amount. Samples for plant nutrient analyses are being collected from rainfall, runoff waters, and sediment. Water samples for nutrient losses are also collected from field size watersheds, tile outlets and daily samples from Four-Mile Creek. Samples for herbicide analysis in runoff water and sediment are being collected at several sites.

Recent attention was given to selecting 4-sub-watersheds for studying the effect of specific practices. A sub-watershed has been selected for the following practices: terracing, filter strips, conservation tillage and no-till. Practices have now been installed on the terraced and filter strip watersheds. Practices on the two tillage watersheds are well underway. The installation of gaging stations on three of these watersheds are held up because of the funding problem.

Terminating the project at this stage would be a great loss. Although much useful data have already been collected, we are at the point where two years of preparation is about to pay off. Closing the project would be similar to planting a crop and not harvesting it.

I cannot say enough about the excellent interest and cooperation shown by the farmers in the watershed and the agencies involved. ASCS, SCS and the extension service in Tama County have worked together on the project and given freely of their time. Farmer attendance at educational meetings and tours has been excellent. They have willingly participated in the annual inventory of land use and farming techniques and have cooperated on social and economic questionnaires. Farmers frequently point out the demonstration value of the program and how it influenced their decisions. As of mid-May, terraces were constructed on 12 farms and are planned for 17 more farms. Waterway development was completed on 28 farms and planned for 19 other farms. Conservation tillage has received wide acceptance and is in full swing or being tried on nearly all farms. Farmers are expecting another year of the cost sharing program and will be very unhappy if this falls through.

The rate of application of practices on farms in the watershed has been far above normal. Observations indicate several reasons for the rapid progress. The 90 percent cost sharing for permanent practices such as terracing and waterway improvement and payments for conservation tillage have been a strong incentive. The educational program, including meetings, tours and newsletters, have stimulated interest and helped convince farmers that benefits exceed their costs and that inconvenience is minimal. Pooling agreements to achieve maximum cost sharing caused farmers to work together. It increased practice application because when one farmer wanted to do something he convinced his neighbor to do likewise. It is my opinion that at least 75 percent cost sharing on permanent practices and some payment for conservation tillage should be encouraged. Conservation tillage will get the most soil protection for the least cost. It not only is effective as a single practice, but can reduce the need for high cost terracing.

In addition to the research already discussed, the social, economic, and ecological studies are progressing but need more time for completion.

The Four-Mile Creek project is well organized and staffed with highly competent people. It is well underway and promises to provide much needed information on the problem of protecting our soil and water resources. Not only will it provide information for Iowa, but coefficients will be developed for computer modeling applicable throughout the midwest. It is hoped a way will be found to continue the valuable research that is just well started.

In a visit to the watershed, Senator Culver stated that this project, the first of its kind in the nation, "will make a substantial contribution to our ability to improve soil conservation and water quality programs alike. The results will set a pattern for future efforts nationwide".

THE FOUR-MILE CREEK RESEARCH PROJECT—A WATERSHED STUDY IN TAMA COUNTY, IOWA TO HELP ACHIEVE NONPOINT POLLUTION CONTROL AND MEET WATER QUALITY GOALS[1]

Four-Mile Creek is a small stream that drains a 12,000 acre watershed in Tama County, Iowa. The watershed is the site of a field evaluation study to better understand the role of agricultural best management practices (BMPs). The major purpose of the research is to obtain information to help in achieving nonpoint pollution control and meeting the nation's water quality goals. The following section describe society's concern for water quality, research objectives and data collection, characteristics of the watershed, and the agencies involved.

Society's Concern for Clean Water

Improving and maintaining clean water in our nation's streams, rivers and lakes is an important societal concern. Clean water is necessary for drinking, agricultural and industrial use, recreation, and a healthful environment.

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[1] Iowa State University, Department of Agricultural Engineering.

Society's concern for improving the nation's waters has led to congressional action. A federal and state effort to improve water quality was initiated in 1972 when Congress passed the Federal Water Pollution Control Act Amendments (FWPCA). The Act set water quality goals and established provisions for curbing and eliminating water pollution. Section 208 of the 1972 amendments requires the development of state and area wide water quality management programs. It mandates pollution abatement from both point and nonpoint sources. In agriculture this includes pollution from crop production and the feeding and pasturing of animals.

In 1977, Congress established the Rural Clean Water Program (RCWP). This program provides the framework for implementing Section 208, and, potentially, the funding for achieving the desired goals. Legally the federal government is bound by FWPCA–1972 to try to achieve "fishable and swimmable" quality waters throughout the nation by 1983.

Agricultural Pollutants and Research Needs

Agricultural pollutants are natural components of the countryside. They become pollutants only when they interfere with the beneficial uses of water. Six major agricultural pollutants have been identified; they are sediments, nutrients, salts, organics, pesticides, and disease-producing organisms. All are by-products of food and fiber production and can move from the land to water sources.

The kinds and amounts of pollutants which move from agricultural land to streams, rivers and lakes are strongly influenced by land use and management. The dominant technique for curbing pollution from the land is considered to be the development and application of agricultural best management practices (BMPs).

Research is needed to better understand the role of BMPs in the achievement of water quality, soil protection and other environmental amenities. There is a need to evaluate practice costs and social acceptability. Such information will enhance the development of feasible control programs, provide guidelines for policy decisions and indicate avenues for reaching desired environmental goals.

Measurements and data gathering for this study are centered in a heavily cropped watershed characteristic of Iowa agricultural land. The application of BMPs is being encouraged by increased levels of education, technical assistance and cost sharing. The project will be of sufficient duration, at least 5 years, to ensure that before-and-after effects of BMP implementation are characterized Some background data are already available from earlier studies in the watershed.

Objectives and Data Collection

Research objectives for the project can be divided into four major categories. The first involves a determination of the effectiveness of BMPs in the control of agricultural nonpoint sources of pollution including a study of the chemistry of pollutants and the mechanisms influencing their movement from field to stream.

Many kinds of data are being collected to achieve this objective. Precipitation is measured at six locations, and streamflow is gaged at eight sites. Samples of surface runoff are collected from field size and larger watersheds during storms. Water samples are collected daily from creek flow and weekly from tile flow. The water samples are analyzed for their content of sediment, nutrients and pesticides. The sediment itself is separated from the water and analyzed for particle size and content of nutrients and pesticides. Sediment deposition is measured at some locations and Four Mile Creek itself is observed annually for changes in bottom characteristics and cross section. A survey is made each year of all farms in the watershed. The crops grown, tillage practices used, and kinds and rates of fertilizer and pesticides applied are recorded for each field.

A second objective is to determine the social and institutional processes which influence the awareness, adoption, and maintenance of BMPs. Four Mile Creek watershed will serve as an experimental area in which both education and monetary incentives will be applied and evaluated. Two other watersheds will be studied for comparison; one with only educational treatment, and the other with no treatment effects. Other relevant social and economic factors such as demographic and agricultural characteristics, various change agents, and the influence of farm organizations and local offices of state and federal agencies will be studied.

A third objective involves an economic analysis of nonpoint source pollution control and the development of water quality goals which are economically and socially acceptable. Considerable data collection and analyses will be required to accomplish this objective. There will be an assessment of water quality requirements needed to satisfy meaningful uses. The cost-effectiveness of alternative sets of BMPs will be evaluated. Alternative pollution policy options that will encourage or require the adoption of BMPs will be studied. Both on-site and off-site benefits of pollution control will be assessed to determine socially desirable levels of control.

A fourth objective relates to the goal of "fishable and swimmable" waters where feasible. Application of BMPs may be expected to affect stream quality. Studies are already underway to identify and determine the abundance of fish species and major groups of benthic invertebrate organisms in Four Mile Creek and several nearby streams. In addition, base line water quality data in the streams will be obtained.

Description of Watershed

The Four Mile Creek watershed is located in the northwest corner of Tama County, Iowa and is part of the Iowa-Cedar River basin. It is about 2 miles wide and 10 miles long; the land area is about 12,000 acres. A map of the watershed is attached.

The topographic features and drainage of the area are related to glaciation during the Pleistocene and to subsequent modification. Nearly all the glacial till is covered by Wisconsin loess, up to 35 feet deep on the divides but thinning on the valley sides.

The watershed has a humid region climate subject to a wide variety of weather conditions typical of Iowa. The mean annual temperature of the area is 47.6°F; the mean annual precipitation is 32.4 inches.

Soils in the watershed are dominant of loess origin and silt loam in texture. The parent material and prevalent soil phases are:

Loess, 69 percent—Tama, Downs, Fayette, Muscatine.
Alluvial—Colluvial, 23 percent—Colo, Judson.
Thin Loess over Glacial Till, 7 percent—Kenyon.
Glacial Till, <1 percent—Shelby (Liscomb).

About 75 percent of the watershed is planted to corn and soybeans each year; 20 percent is in small grain, meadow and pasture; and 5 percent is in building sites, roads and other uses. Liberal amounts of fertilizer are used especially for corn. Herbicides are widely used for weed control, and some insecticides are used, mainly for control of corn rootworms.

Tile drains are commonly installed along waterways. Although most cropped soils have good natural drainage, some tile is used in the flatter upper regions of watersheds and in some flood plain areas. Many farmers plow cropland especially following corn. Contouring and conservation tillage, however, are increasing in the watershed. About 1 percent of the cropland is terraced. The soils are very productive and crop yields are excellent. Much of the cropland has slopes of 5 to 12 percent and on such lands runoff and erosion are often excessive.

Implementing BMP's

BMP's selected for emphasis in the watershed include contouring, conservation tillage, terracing, strip cropping, sod waterways, water empoundment reservoirs and animal waste control facilities. Practices such as vegetative cover improvement, tree planting, stream bank protection, wildlife habitat and others may be used.

The use of appropriate practices will be encouraged throughout the watershed. In addition, subwatersheds have been selected to implement specific practices and to measure their effectiveness. An all-pasture watershed is already under measurement. A terraced watershed, a strip cropped watershed, a minimum tillage watershed and a no-till watershed have been selected and the practices are being implemented.

Techniques used to facilitate interest and encourage application of practices include meetings and tours, publications, newsletters, and personal contact. Technical assistance and cost sharing are available.

A Cooperative Effort

Research in the Four Mile Creek project is interdisciplinary and detailed. It is designed so results can be generalized and used beyond the borders of Four

Mile Creek and the State of Iowa. To facilitate widespread application, data will be use in simulation models to establish relationships and predict alternative solutions, and to suggest policy for solving agricultural nonpoint source pollution problems.

The project is being coordinated through Iowa State University and involves the departments of Agricultural Engineering, Agronomy, Agricultural Economics, and Sociology and Anthropology. The Animal Ecology and Civil Engineering departments are also involved and are doing complementary studies outside the Four Mile Creek Watershed.

Funding as well as cooperative project management for methodology development and data gathering is provided by the U.S. Environmental Protection Agency. Funding from the U.S. Agricultural Stabilization and Conservation Service provides cost sharing monies for implementation of conservation practices in the watershed. Technical assistance is provided by the Soil Conservation Service and educational efforts by the Cooperative Extension Service. The U.S. Geological Survey shares some of the data collection costs. Other federal and state agencies provide general support and advisory services.

In Tama County, the offices of the Agricultural Stabilization and Conservation Service, the Soil Conservation Service and the Cooperative Extension Service work with research personnel and farmers. Farmers in the watershed have a key role in cooperation and practice application; without their effort there would be no project.

STATEMENT OF JAMES J. HEALY, ON BEHALF OF THE FARMERS PRODUCTION CREDIT ASSOCIATION, CEDAR FALLS, IOWA

Mr. Chairman and members of the Subcommittee, I am Jim Healy, President of the Farmers Production Credit Association headquartered in Cedar Falls, Iowa. Our Association is a farmer-owned, farmer controlled lending cooperative which is currently providing $64 million in short and intermediate term loans to 540 farmers and stockmen in the counties of Butler, Chickasaw, Bremer, Grundy, Black Hawk and Buckanan. There are a total of sixteen PCAs such as ours in Iowa and they are currently serving over 10,000 Iowa farmers with nearly $1.2 billion in credit for their operating, livestock, machinery and other short and intermediate credit needs. Approximately 23 percent of the short and intermediate credit needs of farmers in our chartered territory are being provided by their own locally-owned PCA.

I appreciate the opportunity to appear before this subcommittee to discuss the availability of financing for conservation purposes through the PCAs. We provide short (usually one year) and intermediate term loans of up to seven years for all needs of the farm family—that would include livestock, operating expenses, machinery, improvements and conservation practices. We tailor our loans for repayment over a one to seven year period depending on the purpose of the loan and the individual needs of the borrower. We recognize the need and are very supportive of providing financing for good conservation practices. We have an adequate, dependable source of funds available for such purposes to credit worthy farmers.

We should be very proud of the outstanding and unusual efficiency of the American farmers. In facing up to such serious problems as inflation and energy, it is easy to overlook the fact that we are the best-fed and best clothed nation in the world—and our people spend the least amount of hours earning the money to pay for these essentials of life. In addition, we have a large amount of ag exports to feed a hungry world and help our balance of trade deficit. Good conservation efforts and practices employed by individual farmers in partnership with government over the years have contributed significantly to this efficiency and productivity success story.

Farmers are basically good stewards of the land. They value their land and recognize it as a valuable resource to be preserved for future generations. Most of them have a very strong desire to leave their land in better condition for their children than when they received or purchased it themselves. Some of the best land in the United States is located in Iowa; as a result, Iowa has some of the best land in the world. It is a resource which benefits and is of value to all of society. As I visit with farmers, I am usually very impressed with their willingness to carry out good, basic conservation practices; however, they are dismayed when they get the impression the rest of the nation expects them to do the total job, particularly considering our nation's desire to maintain low food prices and to control government spending. This "cheap food policy" has a depressing effect on the prices received for agricultural commodities and consequently, the profit levels. This type policy places farmers in a real cost/price squeeze. They often, as is the current situation, have difficulty in maintaining liquidity and in generating sufficient cash flow to pay their basic production expenses. This doesn't leave anything to pay other costs or to invest in such worthwhile things as conservation. Government programs also have a significant impact on agriculture. Federal farm and food policies and programs in recent years, and likely the ones enacted in the future will be designed to achieve maximum production and efficiency at the least cost to government, the U.S. electorate and foreign customers. These economic pressures force farmers to be very selective and require them to carefully prioritize their investments. Unfortunately, soil conservation practices are often not a very high short-term priority under such conditions. They tend to be delayed, deferred, or often are eliminated entirely. This is not good, but in reality, it is often what happens.

Government and individual farmers have worked closely together in the past to achieve the highly efficient agriculture of today. Much of the success has been as a result of cost sharing arrangements or other incentives for good conservation. In recent years, however, our conservation practices have slipped. It is time to again provide some economic incentives to our individual farmers such as government cost sharing arrangements, tax incentives for conservation costs and investments, etc. to encourage them to invest more money into conserving our land and water resources. This will pay dividends and be of great value to our total society over the longer term as it has been in past years. Farmers have demonstrated over and over their willingness and desire to carry out sound conservation practices in partnership with their government, and I'm sure that will continue if there are adequate funds and other economic incentives made available to encourage it. As a cooperative lender owned by farmers and stockmen, we will certainly do our part to assure that funds are available at reasonable rates to individual farmers and stockmen who desire and need to borrow for conservation purposes.

Mr. Chairman, I appreciate the opportunity to make this statement to you and the Subcommittee.

STATEMENT OF GEORGE ISLEY, BLACK HAWK COUNTY SOIL CONSERVATION COMMISSIONER

Gentlemen, I am a farmer and farm 2 mi. south of the Jepsen Farm, and am also a Black Hawk County Soil Conservation Commissioner.

I have an opinion and a suggestion I'd like you to consider.

First the opinion: The last 5 years probably has seen more conservation tillage initiated and more interest in soil conservation than all the years previous. Farmers are now aware of the need to conserve the topsoil more than anytime in history. Our educational efforts and publicity are now paying off.

I do not think we need more studies, research, resource inventories, grants, etc. creating more drain on our tax dollars by more Government Bureaucracy.

We need to channel available funds into actual land conservation practices. We know how, we have the desire, now lets get on with the job.

Now for the suggestion: One of the factors discouraging the farmers from building soil retaining structures is economic. He must maintain an income from this land while at the same time build the needed structures. This crowds the tiling, earth moving, etc. into a 3–4 week period in the spring and again in the fall. When a farmer is paying cash rent of $100–$150 per acre or is making farm payments where interest alone often exceeds $300 per acre, he simply cannot afford to let this land lie idle for a season to do the needed work.

My suggestion is to have a ASCS set-aside program that would apply only to land that needed reconstruction so preserve top soil. The set-aside payments should be sufficient to cover basic costs for the year, and be handled by the existing ASCS Office and Personnel.

This would give the farmer and contractor a full season to get the job done correctly. They would have time to wait out the bad weather, time to complete the project and get seeding established and sufficient grass cover before the ravages of fall and spring rains.

This one single incentive would be a big "shot in the arm" for soil conservation. Please consider this suggestion carefully. Thank You for hearing us.

STATEMENT OF DR. JOHN P. MAHLSTEDE, ASSOCIATE DIRECTOR, IOWA AGRICULTURE AND HOME ECONOMICS EXPERIMENT STATION, IOWA STATE UNIVERSITY

SOIL CONSERVATION IS FOREVER

Conservation of soil is among our most critical immediate national needs which also promises perpetual benefits. Yet it is the discounted value which we place upon benefits accruing to our descendants at the cost of immediate satisfaction which prevents us from dealing effectively with it. Neither this nation nor the earth can hope to support even greater numbers in the future if we permit our soils to be destroyed in the present. The earth cannot even support its present population in perpetuity without maintaining most of our soils productive given no foreseeable major innovations in food production methods.

We became painfully aware of the need for soil conservation during the 1930's. The catastrophe of the Dust Bowl was evident to almost all citizens living east of the Rocky Mountains as soils were destroyed, and dust obliterated the sun and was collected on the decks of ships at sea in the Atlantic. Everyone who had eyes to see perceived that something serious was happening. Yet, water erosion had already caused serious losses and had gone almost unnoticed by the general public.

The national response was quite prompt and it was effective to the extent of the resources available and used. One of the most significant developments was the creation of the present Soil Conservation Service in the United States Department of Agriculture and the evolution of soil, and more recently, resource conservation as a professional pursuit of agriculturalists. The technology of soil conservation was not particularly complex a half century ago and for an additional two decades.

But the enthusiasm of the public for soil conservation did not persist because other events directed our attention elsewhere. World War II and other military conflicts sapped our resources and took our minds off one of our most basic natural resources, the soil. The condition of our atmosphere, the decay of our inner cities and other social problems diverted us too. Technological developments related to fertilizer production, farm power and crop plants made it possible to "hold our own" or even improve yields of crops in spite of staggering losses of soil and the relatively permanent destruction of many acres as field crop producing units. Unfortunately even farmers who recognize the basic role that soil plays in food production systems were forced, by the pressure of the market place and a genuine desire to feed the hungry of the world, to ignore practices and even remove structures which could and did protect the soil.

Thus it was until about 10 years ago when the public turned its attention again toward soil conservation. But this time the public wished to control soil erosion because soil sediments were determined to be the largest weight and volume constituents polluting our lakes, streams, rivers, and estuaries. The public wanted clean water but our eroding soils would not permit it. In essence, we have reached our present soil conservation awareness state, through the "back door" via Section 208 of Public Law 92–500.

Iowa prepared a statewide water quality management plan in 1979 as a positive response to the challenge of Section 208. It is not surprising that the control of nonpoint pollution from agricultural crop and pasture lands was listed as one of the 16 priority programs needed in Iowa. While the focus is on water, the 10 points under this priority program deal directly or indirectly with reduction in the sediment load of runoff water from agricultural lands.

Other priority programs also deal with land which was once in, or land which potentially might be put into agricultural production. These include the development of an abandoned mine reclamation program, requiring mines other than for coal to comply with mine reclamation programs, restoration of lakes under the Clean Lakes Program and the evaluation of existing programs to implement most cost effective solutions to both point and nonpoint sources of pollution. Secondary programs related to agricultural land include the assessment of the impact of septic tanks, controlling the pollution from various construction activities and the development of educational and regulatory programs for agricultural chemicals.

The Iowa Statewide Water Quality Management Plan of 1979 identifies 10 procedures for controlling nonpoint pollution which is a surrogate for soil erosion control and a few other water-related runoff problems associated with agricultural land. Eight of these indicate or indirectly imply that state or federal funds will be expended for achieving higher quality water. Interestingly enough one of the two which does not speak of a voluntary pollution abatement program is an evaluation of the need for a mandatory control program while the other simply provides for expanding public information and education efforts on nonpoint pollution and its control. It is interesting to reflect on this "carrot-on-the-stick" range of "incentives" being considered as part of a priority program in improving water quality.

The fact that the Iowa Water Quality Plan calls for the use of funds in so many ways implies that clean water (substitute soil erosion control) costs; often as a long-term investment. This is simply a recognition of what farmers and land owners have told us by their action time and again. The fact is that many conservation practices have had rather small immediate beneficial effects and hence the return on the investment for the individual has often been much less than was potentially available elsewhere. Inasmuch as funds available to farmers are always limited, economic survival has demanded that these be spent in a way to optimize, to the extent possible, returns on the various types of resources available for farmer use. When one considers that one farmer is most likely to farm approximately 40 years, any investment which has a pay-off at a date beyond his or her anticipated retirement has little personal value unless he or she is strongly committed to making some sacrifices for the next one or two generations of family members or others.

Investment of funds in soil conservation by the public through federal, state and local government is also beset by the problem of long-term payoff. Unlike the individual farmer, the nation has an expected lifetime of many centuries and, in the broadest sense, mankind expects to inhabit the earth for many ages into the future. It is important that we as a nation begin to take steps in resource use and conservation which are consistent with our dreams for the future. We should not need to be reminded of past civilizations and nations which failed directly or indirectly because their soils failed; or should we say, "because they failed their soils"?

We have made investments in soil conservation but they never have been large relative to the long-term need and never really adequate. In addition, as the flow of world events forced greater and greater demands upon our soils our efforts in their conservation were more likely to be reduced, in real terms, than increased as they should have been. The resources needed to deal effectively with soil erosion control are of a magnitude which is likely available only at the federal level. Nevertheless, the state government of Iowa has been a leader in expressing its concern for adequate soil conservation by appropriating its own limited funds to encourage the installation of measures to meet critical soil conservation needs and to accelerate an inventory of its soils (soil survey).

The optimum allocation of large amounts of federal funds, even for something as basic as soil conservation, is not without difficulty. The problem lies in the fact that all agricultural land is not equally adapted to intensive crop production and is not equally responsive to a given level of conservation technology input. For example, in Iowa, much more investment is needed to reduce the sediment load in streams to some "tolerable" level in western and northeastern Iowa than is needed in north central Iowa. And there are differences within a geographical area as well as among farms and among fields within farms. Hence, reducing erosion runoff by one ton will require the allocation of much more resources in some regions and on some sites than in others. We really have not adequately faced up to this situation.

Another problem with reducing soil erosion is that a given rate of erosion could continue unabated for a number of years at some sites without serious long-term consequences while the same level continued at other sites would have disastrous results within the lifetime of one operator. Turning again to western Iowa, at the present time, it matters little on some of the hills whether or not another 1,000 or 2,000 tons (or 6 to 12 inches) of soil material are lost in terms of what might be done at those sites 25 or 50 years in the future. Contrast this to a site in northeastern Iowa underlain with limestone, where once the soil material has been removed, the productivity of the site is essentially lost for thousands of years. Some soils in southern Iowa also are fragile and, once their surface layers are gone, the underlying horizons cannot be agriculturally productive as we think in terms of corn or soybean production and probably not as productive either in terms of forage production or grazing.

Clearly, all of our soils should eventually be protected from water and wind erosion. But water damage is the most critical in Iowa and we do not have resources now to do the complete job. So, with limited funds, it may be more rational for society to invest in adequate water erosion control in places like southern and northeastern Iowa (at least on certain soils) than in southern Iowa, and certainly before being concerned about erosion losses from the one and two percent slopes in north central Iowa (which admittedly are subject to wind erosion) as long as soils with slopes of four percent and greater elsewhere in the state are not protected.

As noted earlier, this does not mean that normal soil conserving measures should not be encouraged wherever soils are tilled—a consideration now found in federal and state cost-sharing programs in which funds are spent only on soils where there is some need. It does mean that in most cases, those who own soils which are not susceptible to rapid deterioration through erosion usually find it easier and more likely to be economically feasible to install the modest erosion control practices required in these milder situations.

The emergence of new production technology has caused many soil conserving practices to be abandoned. When there was no longer a need for feeding and housing work animals on each farm there was no longer a need to have rotations consisting of high proportions of crops which contribute strongly to soil conservation. The disappearance of work stock probably led to the decline in numbers of other farm animals because there was no longer the joint advantage of having additional animals if at least a few (work stock) were indispensable. This coupled with some advantages of climate, inexpensive irrigation water and cheap transportation of grain effectively withdrew many cattle from the state. The rapid application of the principles of chemical nitrogen fixation based upon once plentiful and inexpensive natural gas contributed to the disappearance of meadow-types of legumes which were essential for efficient grain production. Without the need for nitrogen production on the farm, the need for maintaining livestock further disappeared. Farming with "anhydrous ammonia technology" was very enticing because the cost of nitrogen in anhydrous ammonia was extremely low and its effects were immediate, noticeable and undeniably profitable to farmers.

One final note on agricultural technology is the increase of the size of farm machinery which has permitted one operator to cover many many more acres with a given machine in a given length of time than those who had smaller machines. Given the economy, there were large efficiencies due to scale and the larger operators who were also highly skilled tended to drive out those operators who were smaller and less skilled and even those who were smaller and equally skilled. But large machinery cannot be used effectively to cultivate point rows and cannot be manipulated efficiently in small fields and fields which are divided by terraces or strip crops. These impediments to "efficiency" had to go and did, with the compounding effect of intensive row crop cultivation year after year with longer and longer slopes which provided little or no restraint to the surface flow of water.

Research and education in soil conserving practices could not keep pace with the rapidly expanding agricultural technology fueled by our free enterprise system. It could have, but when our ability to produce more crops than we could dispose of readily became apparent approximately a quarter century ago research and education in agriculture seemed to be removed from the priority list by our national government. So, instead of continuing to expand the research and education activities of the United States Department of Agriculture and the land-grant universities, they were dampened and it was difficult to find resources to transfer to research and education dealing with the conservation of soil and related natural resources.

Funding was not the only problem. The large-scale nature of our technology presented the investigators with some rather unique difficult and sometimes intractable problems in experimental design and experimentation. Some of these have not yet been resolved—unfortunately, we have lost two decades of time in getting on with the job.

We do know many of the factors which can be employed to conserve and manage soils for perpetual use. Some we do not know. In other cases we cannot keep up with the understanding of special needs under a rapidly changing production technology. Research and education are needed at least to keep up with technological changes. Our farmers simply cannot afford to use conservation technology which is geared to two-row tractors—not as long as it is much more profitable for them to use large tractors.

Society and those who till the land both must recognize that an investment in soil conservation is an investment which belongs to all people and that all are responsible for soil protection. We should not permit the arbitrary dismantling of soil conserving practices and installations until a backup system is available and the where-with-all for its implementation is at hand. Yet, during the past decade, farmers have been encouraged to produce as much grain and oilseeds as possible at the expense of landscape features and installations which had erosion control and water quality value.

We still have much productive land in this country but we are losing much through attrition for other uses and through neglect and erosion. Every year we have less and new land is becoming more scarce and costly to bring into cultivation or grazing. The insidious nature of this reality is that once an acre of soil is destroyed, it is essentially lost to production and may be claimed only at astronomical cost, if at all. If this goes on long enough there will not be enough food with which to set an ever-growing dinner table. The predominant part of our food comes from the soil so we need to keep the soil if we wish to continue eating. It is not yet too late to intensify our effort to meet the need. A giant step is appropriate to deal with a giant problem. Let us take that giant step now.

Statement of Ervin J. J. Koos, Director, National Association of Conservation Districts, Shelby, Iowa

Mr. Chairman, members of the Subcommittee, I am Ervin J. J. Koos of Shelby, Iowa. I am a Commissioner of the East Pottawattamie County Soil Conservation District, a member of the Board of Directors of the National Association of Conservation Districts and Chairman of NACD's Research Committee. I am proud to be among the 17,000 locally elected and appointed conservation district officials in this nation, providing assistance to over 2½ million landowners in solving conservation problems.

We have here in Iowa some of the richest farmland in the world. Our soils are deep and fertile. And yet it is estimated that for every bushel of corn that is harvested, there is a bushel of topsoil which leaves the field as the result of erosion. Erosion from much of the land is insidious, not easily detected and, for the most part, the losses in fertility have been masked by the increased use of commercial fertilizers.

Despite protestations to the contrary by officials of the U.S. Department of Agriculture, it is our opinion that the federal conservation program and the rest of the farm program are working at cross purposes.

Land taken out of crop production for grassed waterways and for other conservation purposes is subtracted from the farmer's cropland base. This has the effect of penalizing the farmer who installs and maintains a good conservation program on his land. This has led to the plowing out of sound conservation practices in order to maintain a cropping base.

At the present there are many areas of this nation which are suffering from extended periods of extremely high temperatures and drought conditions. Since the national soil conservation effort was originally started in response to the extended drought conditions of the Dust Bowl days of the mid-1930's, the question arises whether or not the soil conservation efforts of the last 40 years have paid off under present conditions. Our national association and USDA are independently attempting to survey the present situation to determine some of these interrelationships. Although our study is still incomplete, early returns indicate that the farmer who has installed and is maintaining a good conservation program on his land is much better able to withstand drought conditions. We hope to be able to provide Congress with a more complete report in the coming months.

Drought in the Great Plains and torrential rains in the more humid portions of the country are recurring natural phenomena which should be expected and planned for. In that sense, these conditions should not be considered disasters. Their effects can be minimized through proper soil and water conservation practices, properly installed and maintained. Federal investments in soil conservation practices installed and maintained on the land can minimize the need for "disaster" programs.

Here in Iowa, over the last several years, the state has recognized the need for a much stronger soil conservation program than what the federal government was providing. Neither federal cost-sharing nor federal technical assistance were keeping pace with the needs of the resources. In 1973 the Iowa General Assembly enacted a conservation cost-sharing program to assist landowners in installing necessary conservation practices. Additionally, all of Iowa's conservation districts employ some staff of their own to complement and supplement federal technical personnel available from cooperating agencies.

Iowa was the first state to enact a state cost-sharing program. In recent years five other states—Minnesota, Nebraska, Wisconsin, Ohio and Kansas—have passed similar legislation. These efforts, however, are unique and were enacted to supplement and accelerate existing federal efforts. Other states are in the process of developing the state and local capabilities to implement similar programs. These efforts by state government and conservation districts should be encouraged by the federal government.

During the past two years or so, as a direct result of new initiatives in response to the Soil and Water Resources Conservation Act (RCA), most states are in the process of developing comprehensive statewide soil and water conservation plans, addressing the needs of the land and water resources of that state. Almost universally, the states are recognizing that the federal efforts in financial and technical assistance for soil conservation programs are woefully inadequate for getting the job done. The states are attempting to translate this concern into state action programs, as Iowa and five other states have already done. We believe that the federal role in soil conservation programs should recognize and encourage these state and local efforts. The states are not in a position to shoulder the entire load, but they are recognizing that increased state and local efforts will be necessary if they are to maintain the productivity of the resource base.

It has been suggested that there should be an increase in soil conservation efforts in those areas with serious erosion problems. This concept has been suggested in proposed legislation introduced in both houses of Congress. These bills would expand the concepts of the Great Plains Conservation Program into other areas of the country which have serious erosion or water management problems.

I refer specifically to H.R. 7022 introduced by Congressman Grassley, H.R. 7755 introduced by Congressman Ullman, and S. 2488 introduced by Senator Church and others. Our association supports the basic concepts in these bills, of providing long-term contracts with private landowners for the installation of conservation measures. However, we believe that there needs to be a much stronger base program available nationwide to help landowners maintain a good conservation system on the land and for making the necessary adjustments to changing crop needs and technological innovations. Without a strong base program, we will undoubtedly lose effective soil conservation in response to changes in market conditions and changes in land ownership. The base program is as important to maintain as is the accelerated efforts in areas of extreme conditions.

[The following study was submitted by Mr. McLaughlin. See p. 108 for Mr. McLaughlin's oral testimony.]

Association of Soil Conservation District Commissioners

IOWA

This plan is the result of the input, concern and time given by over 8,000 Iowans across the state. In 1977 the United States Congress passed Public Law 95-192, the Resources Conservation Act (RCA) requiring each state to conduct an appraisal of its soil and water resources. From that inventory, a state plan was to be prepared to conserve and protect those soil and water resources. The U.S. Department of Agriculture was designated as the lead agency in carrying out this project. In Iowa, the project was given to the Iowa Department of Soil Conservation.

Iowa chose to carry out its task from the grass roots level and held local and regional meetings to gather citizen input. Iowans were asked to rank and prioritize their soil and water conservation concerns. The outcome of that ranking is contained in this report and is the basis for the order in which the recommendations are presented.

After this stage of widespread input, the concerns were divided into four groups under the leadership of the Iowa Association of Soil Conservation District Commissioners and were assigned to task forces composed of representatives of public and private interest groups, government agencies and concerned citizens. They discussed each issue focusing towards trends, problems and opportunities for problem solving. Each task force prepared a report on its findings.

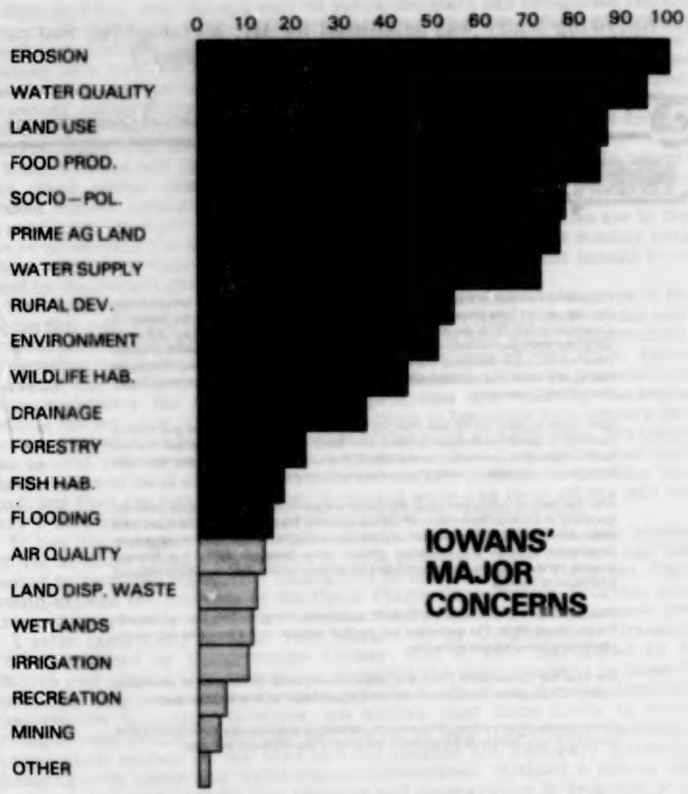
The reports were presented to the State RCA Committee (another volunteer lay committee) in July of 1979. The committee had the final decision on the concerns and recommendations to be included in this plan.

The local Soil Conservation Districts throughout Iowa are in the process of developing county RCA programs by utilizing citizen input in updating their long range programs.

We as Iowans are very proud of the way we went about preparing this report and the final outcome. It truly represents the concerns and ideas of the citizens of this state.

Charles T. McLaughlin

Charles McLaughlin
President, Iowa Association of Soil Conservation District Commissioners
February, 1980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WILDLIFE HAB.
DRAINAGE
FORESTRY
FISH HAB.
FLOODING
AIR QUALITY
LAND DISP. WASTE
WETLANDS
IRRIGATION
RECREATION
MINING
OTHER
IOWANS' MAJOR CONCERNS

IOWA FIVE-YEAR RESOURCE CONSERVATION PLAN

This five-year plan contains specific actions recommended by task forces that were organized in Iowa as part of the Resource Conservation Act of 1977. The actions, the task force members believe, are necessary to protect soil resources, water resources, wildlife and recreation resources, and to develop rural areas in Iowa.

A combination of factors influence the future ability of Iowa's land to produce a high percentage of the nation's food. The key factors that will limit food production are soil erosion, land use changes, and lack of proper water management. A lack of energy, fertilizer, and pesticides may also limit the state's ability to produce food. Agricultural land must be kept in agricultural use and the soil's productive capability must be maintained if Iowa is to have a strong economy in the future.

Soil Erosion

Soil erosion is rapidly depleting our soil resource and polluting our waters. 14 million acres of cropland in Iowa is eroding above acceptable rates making for an average annual rate of 9.9 tons of soil loss for each acre of cropland in the state. An acceptable rate of erosion is 1–5 tons per acre per year, depending on the soil type. Also 400 thousand acres of pastureland and 552 thousand acres of woodland are eroding above acceptable rates. Soil erosion by wind is severe on 4.3 million acres in Iowa. Some of the most severe soil erosion occurs during the development of urban industrial and subdivision sites.

The rate at which we are applying soil conservation practices to the land is only one-fifth the needed annual rate. Terracing, an expensive structural practice, is being accomplished at fourteen percent of the annual needed rate; conservation tillage, a management practice at only eighteen percent of the needed annual rate and contouring at twenty-one percent.

It is the conclusion of this committee that:

> SOIL EROSION MUST BE REDUCED TO THE ALLOWABLE SOIL LOSS LIMITS BEFORE THE CURRENT PRODUCTIVE CAPABILITY OF THE SOIL IS PERMANENTLY IMPAIRED. THIS WILL REQUIRE COMMITMENT AT ALL LEVELS OF GOVERNMENT AND BY THE PRIVATE SECTOR, IN A VASTLY ACCELERATED CONSERVATION EFFORT.

According to 1978 District Resource Inventories, to reduce soil losses to allowable levels, an estimated $198,144,000 application cost and $12,800,000 personnel cost will be required annually.

There are several limiting factors affecting the application rate of erosion control practices. They are: 1) cost to install practices; 2) educational and technical assistance needed to motivate landusers to plan, design and lay out practices; 3) a short construction season; 4) availability of contractors and/or equipment due to a short construction season and 5) acceptability of practices to private landusers in some areas.

There are several alternative programs that can be brought to bear on the soil erosion problem. The RCA Committee believes it will take a combination of alternatives to reduce soil losses.

A. Cost-Sharing

Currently there are several cost-share programs in use in Iowa available to landusers.

1. Federal cost-sharing.
   a. Agricultural Stabilization and Conservation Service (ASCS)
   Agricultural Conservation Program (ACP)
   Forest Incentives Program (FIP)
   b. Soil Conservation Service — PL-566 Small Watershed program, Little Sioux Flood Prevention program, Resource Conservation and Development program.
   c. Section 35 of the Rural Clean Water Act, providing that cost-share monies can be made available under the Rural Clean Water Program.
2. State of Iowa.
   Cost-share programs of the State Department of Soil Conservation.
   a. General cost-share
   b. Iowa Till
   c. Wind Erosion Control Incentives Program
3. County cost-share.
   Using County Rural Assistance funds, revenue sharing funds, and other sources, many counties are now offering some funds for soil conservation work.

Currently local, state and federal cost-share monies are in demand at the 50 percent cost-share level.

On programs that are on a "watershed basis" where the application of construction practice is proposed for a large area of land in a short time span, 75–90 percent cost-sharing is sometimes required to increase landuser acceptance to install the practices.

Iowa's total combined cost-share budget is currently 30 million dollars for all soil conservation programs. Our current average annual rate of accomplishment for soil erosion practices is 20 percent of the need. (See Appendix A).

Recommendations

Because of this low rate of annual accomplishment, cost-share monies must be increased to raise the annual rate of accomplishment to 100%, if we are going to meet the soil conservation need.

It is recommended that county governments be responsible for 1.5%, the state 25%, and the Federal government 73.5% of the increased funds.

Low interest loans should be made available to small farmers to be used in the application of conservation practices.

B. Technical Assistance

Currently 238 years of direct technical assistance are being expended on statewide soil and water conservation programs by the Soil Conservation Service and the Iowa Department of Soil Conservation. To provide the direct technical assistance necessary to operate the soil conservation programs at a satisfactory level, it will require 964 years of input by technical personnel annually.

Recommendations

County governments should provide a minimum of one worker-year technical assistance to each soil conservation district in each county by 1985. This would provide 100 work-years of technical assistance annually.

The State of Iowa should increase the current technical assistance to soil conservation districts from 35 progressively to 200 worker-years by 1985.

The Federal government should increase its assistance to soil conservation districts in Iowa through the Soil Conservation Service to 664 work-years by 1985.

C. Lengthening the Conservation Construction Season

Recommendations

The construction season should be lengthened by using Federal and/or state cost-sharing monies to compensate a landowner for setting aside an area that needs conservation work such as terraces. This will allow structural measures to be installed during the cropping season. No "double payment" for set aside would be allowed.

Federal and/or State governments need to enter into long-term agreements of 3–10 years with landusers to install needed conservation measures. This allows for continuity for conservation work.

D. Increase Landowner Awareness and Acceptance of Conservation Practices

If the recommendations on additional technical assistance were achieved, landowner awareness and acceptance would be greatly improved.

Recommendations

Increased coordination is a must among federal and state agencies in informing landusers of the need and value of conservation.

All levels of federal and state government must insure that their various programs encourage soil conservation.

Increased technical assistance to promote and plan soil conservation measures would greatly increase acceptance.

All resource agencies must step up information and education programs to heighten public awareness and peer pressure toward the application of conservation practices.

E. Tax Incentives

Recommendations

The Federal and State tax laws need to be changed to allow a landowner or user an investment credit of up to 75 percent of the cost of installing permanent soil erosion control practices. The amount not credited in one year could be carried over in ensuing years, until the total investment has been deducted. To be eligible, the erosion control practice must meet the standards and specifications of the USDA Soil Conservation Service. The landowner or landuser should not be restricted to farm income.

A farmer should be allowed to deduct the loss of crop income from land that is "set aside" for construction of conservation practices during the growing season of the year in which the conservation practice is installed.

F. Soil Loss Limits

Chapter 467A of the Code of Iowa states that if one landowner is damaged by another, the damaged landowner can file a soil loss complaint with the soil conservation district against the other landowner. The law requires that the soil conservation district must investigate the complaint. If erosion is excessive, the district issues an administrative order to the landowner with alternative solutions. If the landowner does the work, he/she will be guaranteed 75 percent cost-sharing on the practice from the Iowa Department of Soil Conservation. The current limitation to this program is that a written complaint must be filed by a neighbor, and they are often hesitant to file.

Recommendations

This law needs to be changed to equalize the administrative and voluntary cost-share rates.

Soil Loss limits should be strengthened by including the provision that county supervisors and soil conservation district commissioners may file soil loss complaints.

A provision should be made in the law that, if one or more individuals in an area are obstructing the progress of a plan to protect the soil and water resources, a "substantial majority" of the landowners may gather together and file a soil loss petition against those individuals.

G. Urban Soil Erosion

Urban erosion is a very real problem. It causes problems below development sites to private landowners and public facilities alike.

Recommendations

City and county governments need to incorporate erosion control requirements in their subdivision ordinances.

Soil conservation districts need to work with city and county governments to offer technical assistance to review subdivision plans and soil erosion control plans.

City, county, and state highway construction and/or repairs need to include provisions for temporary soil protection measures.

Water Quality

The water quality in Iowa is influenced by a host of instream and non-stream influences. A few of these are: 1) suspended soil particles and sediment (the largest water polluter in Iowa by volume); 2) stream bank and gully erosion; 3) herbicides, other pesticides, and fertilizers; 4) city, industrial and storm sewer water; and 5) animal wastes.

Recommendations

The PL-566 small watershed program and P1-534 Little Sioux Program for installation of land treatment and gully erosion structures must be accelerated. Also, state and federal cost-share programs must be accelerated as recommended in the soil erosion section of this plan.

Soil Conservation Districts need to accelerate work with county, city and state highway departments to build grade stabilization structures instead of bridges whenever possible.

Accelerated funding of Section 35 of PL 92-500 is needed for the application of best management practices to improve water quality.

County and city officials need to incorporate storm water management in their subdivision sediment control ordinances, requiring developers to release storm water at a rate no greater than the run off rate that would occur prior to subdividing.

Increased research on the movement of farm chemicals and other chemicals causing pollution is needed.

Research is needed to develop chemicals that are less water soluble but have a short life.

Increased research is a must on biological weed and pest control.

Incentives should be created for landowners to leave a buffer strip of trees or grass along the edge of streams, and to keep livestock from being able to enter streams.

The Agriculture Stabilization and Conservation Service should continue to increase the amount of cost-share funds for group projects which accelerate conservation treatment. The same should apply to the use of long-term agreements which are made available to landusers to program land treatment over a several year period (3 – 10 years).

Land Use

The major problem is the increasing competition for the use of Iowa's limited land resource base.

Recommendations

The Iowa legislature should be urged to take action on the report prepared by the Temporary State Land Preservation Policy Commission.

A system should be established for a resource inventory that can identify land uses, monitor changes, and relate these changes to other natural resource information.

Pastureland Production

Pastureland offers one of the greatest opportunities to increase forage production in Iowa. Of 4.527 million acres of pastureland, 3.28 million acres need protection from sheet, and gully erosion and from loss of fertility. There is also the problem of marginal cropland — land that should be converted from poor cropland to high-producing pastureland.

Recommendations

Existing pastures need to be improved thru reseeding, fertilization and rotation systems to reduce erosion and improve forage production.

Programs for installing grade stabilization structures and ponds for gully control and livestock watering facilities should be accelerated. Construction of livestock water ponds should be increased to 1,400 annually.

Incentive programs need to be established to convert the poorest cropland soils to pastureland.

TO ACHIEVE THIS:

1. **Emphasize interseeding program to plant 60,000 acres annually of compatible grasses and legumes.**
2. **Accelerate warm season grass programs, to establish 14,000 acres annually by conventional seeding and interseeding.**
3. **Establish cover crop in corn (10,000 acres annually of crownvetch or birdsfoot trefoil) with an alternative to convert to pasture or forage seed production.**

The number of information programs through the Extension service, Agriculture Stabilization and Conservation Service, Soil Conservation Service and the Soil Conservation Districts must be increased.

Research programs to document the benefits of warm season grasses, good pasture management programs and other economic benefits should be increased. Five pasture studies should be set up a year.

More incentives are a must for proper pasture management. Both the state cost-sharing program and the Agricultural Conservation Program of ASCS should be increased to this effort.

According to the District Resource Inventories, Forty Seven additional technical personnel are needed to implement pasture programs.

This includes:

1. **Establish an agronomy position on each soil conservation service area staff to work closely with each district conservationist.**
2. **Establish pasture production specialist positions on area extension staffs.**

A committee should be established to coordinate pasture programs. It is recommended that the Iowa Association of Soil Conservation District Commissioners coordinate this committee's activities. Committee members should represent local, state and federal agencies, private organizations and special interest groups. The committee should encourage and cooperate with the Iowa Forage and Grassland Council.

Important Agricultural Land

The major problem is the loss of Iowa's top producing agriculture land to other uses.

Recommendations

A definition is needed for important farmland that relates to Iowa. It should have three parts: land capacity, productivity, and management. It is recommended that the Iowa Association of Soil Conservation Districts organize a group to arrive at this definition.

After a definition is decided upon, important agricultural land must be protected against conversion to other uses and against excessive soil erosion.

Developing Rural Areas

The primary goal in rural development is to retain more people in those areas by making rural areas a highly economical and enticing place to live.

Recommendations

The development of water supply systems should be encouraged; however, loans or grants for rural water systems should not be made until the county has a zoning ordinance that will protect Iowa's important farm lands.

A study should be made to find an efficient and economical system to move grain through central Iowa.

Increased funding for Resource Conservation and Development (RC&D) areas should be encouraged.

Farmers Home Administration (FHA) loan funds for soil conservation and rural development must be increased.

Low interest loans and grants need to be made available in rural areas to encourage and support small businesses, medical services and development of local water supplies.

Wildlife Habitat

In Iowa most wildlife habitat is found on private land. Intensive crop production, primarily to increase financial returns, has caused and continues to create a loss of suitable wildlife habitat. Clearing forests, draining wetlands and plowing grass-legume lands to accommodate row crop production has caused a decline in the quality and quantity of wildlife habitat in Iowa.

Recommendations

Agricultural Stabilization and Conservation Service (ASCS) set-aside type programs must require that the fall set-aside land be seeded with an adequate cover crop. There should be an opportunity to place set-aside type land into 3-5 years undisturbed grass-legume fields.

Property Tax incentives need to be developed and implemented to promote preservation and establishment of wildlife habitat (Forest, Shrublands, Wetlands, Grassland and Windbreaks) on private land.

The Iowa Conservation Commission's warm season grass pasture program should be supported and publicized by all resource agencies to provide habitat for nesting wildlife.

All type III or greater wetlands must be preserved as wetlands. (As defined by the U.S. Fish and Wildlife Service on Circular 39).

Cropland Water Management

The fastest way to increase food production in Iowa is through proper water management on existing croplands. The Iowa-Cedar River Basin Study Drainage Report (1975) estimates that net income per acre on non-managed land would increase by $67.16 if proper water management on cropland was practiced.

Drainage systems throughout the state are old and deteriorating. Only 13% have adequate capacity to remove sufficient water in time to prevent crop damage. The conservation needs inventory estimates that 3.6 million acres of existing Iowa cropland are inadequately drained. On-farm drainage systems are being installed at only half the needed rate.

The cost of installing the needed surface and subsurface cropland water management systems over the next 35 years is 1.5 billion dollars.

Also an additional 62 years of technical assistance annually will be needed to plan and design the larger water management systems.

Recommendations

A master plan is a must to provide cropland water management.

Long Term, low interest loans should be made available through the state and federal governments for improvements in on-farm and drainage district water management systems.

Iowa State University and/or the Science and Education Administration should conduct additional research on the use of conservation tillage on poorly drained soils.

Increased technical assistance should be made available by the state and federal governments to assist landowners and drainage districts in planning and designing large cropland water management systems.

Funding authority should be given to county, subcounty, or conservancy districts. These monies could be used for implementation of drainage, water management, or best management systems.

The concepts embodied in Senate File 501 should be enacted to make the Conservancy District concept a workable structure for water management.

Forestry

Trees are a crop that bring millions of dollars annually to Iowans. Trees are the raw material for more than 60 sawmills operating full-time and for many other industries. They clothe the countryside with natural beauty and provide relaxation and recreation for thousands of visitors each year. Trees in shelterbelts and windbreaks protect Iowa farmsteads and fields from the destructive forces of the elements and make living more comfortable and pleasant. The forests of the state provide the variety of habitat conditions necessary for wildlife. The undetermined and immeasurable value of Iowa forests is essential to the quality of life for Iowans.

A. Woodland

The woodlands in Iowa are disappearing at an alarming rate because of conversion to cropland, pasture, urban development.

The loss of woodland continues at a high rate due to the low immediate economic returns. By 1985, the acreage of woodlands in Iowa should be stabilized at not less than 2 million acres.

Almost all recreational activities are associated with woodlands of the state. As the acres of woodland disappear, the remaining acres become more and more important.

Recommendations

The State must establish a policy on the retention of Iowa's woodland.

The state should continue to increase the purchase of key woodlands as determined by the Iowa Conservation Commission.

An economic incentive and disincentive must be implemented in order to encourage private woodland owners to retain the woodlands.

The federal government should remove land clearing expenses as an allowable tax deduction except in the re-establishment of forests. This incentive only helps to encourage land clearing on some soils that have high erosion potential.

To stop conversion of forestland to other uses, the special property tax exemption for protected woodland must be increased. More education is needed on woodland management for farmers and the general public. Also, the government cost-share amount for fencing of woodlands should be increased.

Cost analysis should be made of various combinations of woodland programs. Such analysis will take considerable time and effort from several government agencies. A university and agency team should do this.

For better management of existing woodland, tax and cost-share incentives should be strengthened. Market education and development should be done by the Iowa Development Commission in cooperation with the Forestry section of the Iowa Conservation Commission, the Iowa State Center for Industrial Services and Iowa State University's Forestry Department.

B. Windbreaks

The District Resource Inventories show a need to establish 4,400 acres of windbreaks annually for the next 15 years. Landusers are currently establishing 845 acres annually. By 1985, windbreaks should be established at the rate of 4,400 acres annually (See Appendix A).

Recommendations

In 1980, a committee including all local, state and federal agencies involved in windbreaks, as well as statewide organizations with interests in windbreaks, should be established. It should study current windbreak programs and develop a plan as to how to achieve the establishment of 4,400 acres of windbreaks annually. This plan will be completed by November 15, 1980.

The Iowa Association of Soil Conservation District Commissioners Forestry Committee should implement the recommendations developed by the study committee by 1981.

Fish Habitat

Small artificial lakes have added significantly to Iowa's lake fish habitat. The major problem in maintaining adequate fish habitat in Iowa is siltation and water pollution.

Recommendations

Vigorous, effective soil conservation programs to reduce erosion and agricultural chemical movement will be beneficial to fish habitat.

Cost-sharing or tax incentive programs to maintain undisturbed stream and river banks should be developed and implemented.

Channelization must be minimized.

A small fishing lake construction program should be implemented.

Farm pond development needs to continue. Farm ponds provide the state with additional aquatic habitat as well as providing a good farm water supply.

Flooding

Average annual flood damages in Iowa exceed 43 million dollars of which about one-half is due to crop and pasture damage from flood waters. Even if all local governments adopted flood plain management regulations as they are empowered to do, the most favorable prognosis would be only a reduction in urban flood damages. Intensive crop production on flood plain lands while being an open-space type of flood plain use, permitted under most flood plain management regulations, brings with it a concomitant demand for stream channel straightening and levees. These projects often increase downstream flooding and have an adverse effect on fish habitats.

Recommendations

County and city governments need to adopt comprehensive, integrated flood plain management programs to reduce urban type flood damages.

Programs such as tax incentives and greenbelts should be developed to preserve the remaining areas of natural bottomland.

Channel straightening and levee projects need be addressed on a basinwide, comprehensive basis rather than the piecemeal approach usually employed.

Air Quality

The air quality degradation in Iowa's rural areas occurs from basically three sources: 1) soil from cropland, 2) odors from animal waste, and 3) dust from gravel roads. There are 4.3 million acres of cropland in Iowa with a severe wind erosion problem.

Recommendations

Conservation Tillage and Windbreaks need be established to hold the soil in place.

The Iowa Department of Transportation should continue to allocate $500,000 annually to cost-share with landusers for wind erosion control measures.

The Extension Service and the Department of Environmental Quality should increase their information activities on animal waste systems and proper operations of animal waste facilities. Land application problems need to be sufficiently explained to gain public understanding and acceptance.

Waste Disposal

A. Animal Wastes

The 1978 District Resource Inventories show there are 25,819 substandard animal waste systems in Iowa. Next to sediment, animal waste appears to be the most serious contributor to poor water quality. There are 11.3 million tons dry weight of animal and poultry manure solids produced in Iowa each year. Animal waste facilities are expensive, with an average cost of approximately $5,000 each.

Recommendations

Animal wastes should be fully utilized by being applied to the land and/or used to develop methane gas, rather than being allowed to enter watercourses. To achieve this in 25 years, 1,033 facilities need to be constructed each year.

Increased educational inputs are needed by the Extension Service to educate landusers as to the water quality problem created by animal wastes, and the value of animal wastes when applied to the land.

The federal government, through the Agriculture Stabilization and Conservation Service, should provide an additional annual appropriation to Iowa of $2.1 million (at 1978 costs). This would provide a 50 percent cost-share of the animal waste facilities needed.

The federal government, through the Soil Conservation Service, should provide 32 years of technical assistance annually to help plan and design the needed agricultural waste management systems.

Additional research is needed by Iowa State University and Science and Education Administration on the value of animal wastes, better animal waste handling equipment, and timeliness of waste applications; also on the use of animal waste to produce methane.

B. Municipal Wastes

Continued population growth in urban areas poses questions as to the capabilities of current municipal waste disposal systems. In some areas of the state, high metal levels in wastewater sludge causes localized problems.

Municipal sludge has been well researched and programs have been developed by the Iowa Department of Environmental Quality.

Recommendation

The Department of Environmental Quality program should be reviewed and assessed from time to time and financial support should be present to ensure personnel for adequate policing of municipal systems.

Irrigation

The major problem is that limited information is available on the supply of groundwater and the effects of increased withdrawals on a particular aquifer.

Recommendation

Water for irrigation from groundwater sources should be allocated cautiously but should not be completely prohibited in a given area unless there is a sound reason for restricting its use. The Iowa Geological Survey is constantly studying groundwater supplies and the Iowa Natural Resources Council is responsible for regulating its use.

Recreation

Current public recreational programs are meeting the demands of the public for the most part. However, the distribution of recreational opportunities is not uniform statewide. There are additional recreational opportunities on private lands that could be developed.

Recommendations

A greenbelt should be established along the Des Moines River to expand recreational opportunities for central Iowa's population.

Future recreational needs should be based on regional as well as statewide needs. This will help reduce the energy needed to travel to the recreational areas.

The state needs to develop more recreational opportunities, such as cross country ski trails, fishing lakes, boating areas, snowmobile trails, parks and campgrounds should be encouraged.

City, county and the state government should be encouraged to develop more bike trails.

A state policy should be developed on future utilization of abandoned railroad rights of way.

Mining

Current state and federal laws and programs are adequate to ensure that new coalmined land is reclaimed in a manner that does not reduce the productive capability of the soil and that reclamation of abandoned coal-mined lands occurs at a satisfactory rate. Because of recent federal and state legislation and a dramatic increase in coal mining, the Mines and Minerals Division staff is devoting nearly all its efforts to coal surface mining reclamation. Other mines, limestone, gypsum, sand and gravel, etc., are being neglected.

The production of these mines constitutes the greater part of Iowa's $250,000,000 mining industry.

The history of mining indicates that the "easy to get" ores are the first to be mined. The location of the "harder to get" ores is not as apparent, but they are very important to future generations.

Recommendations

The Department of Soil Conservation (DSC) needs to secure another reclamation officer to work with limestone, gypsum, sand and gravel mines to assure the state that their reclamation is meeting Iowa's standards.

Iowa should intensify its efforts to locate, map and classify all mineral deposits.

Iowa should restrict commercial developments over these deposits. This could probably best be accomplished through the cooperative efforts of the Iowa Geological Survey, the Iowa Department of Soil Conservation, and the Iowa Development Commission with consultation assistance from the Iowa Natural Resources Council and the Department of Environmental Quality.

Further research into best technology for reclamation could be supported with grants to Iowa State University.

Iowa Soil Conservation Goals and Accomplishments

Conservation Practice	Yrs. to Adeq. Treat	Remaining Needs	Unit	Desired Annual Rate of Progress	Application & Personnel Annual Cost	Average Annual Accomplishment	Percentage of Desired Annual Rate Accomplished
Group Plans	25	33,985	No.	1,359	$ 293,630	658	48%
Conservation Planning	10	49,956	No.	4,996	1,618,569	2,813	56%
* Conservation Tillage	10	14,972,780	Ac.	1,497,278	11,678,768	269,580	18%
* Contouring	15	7,953,638	Ac.	530,224	964,376	110,201	21%
* Stripcropping	20	883,161	Ac.	44,158	242,880	9,404	21%
* Critical Area Planting	15	310,502	Ac.	20,700	12,916,803	21,984	106%
Pasture Planting	15	1,777,132	Ac.	118,475	9,945,906	31,478	27%
Past. & Hayl. Adeq. Trt.	20	2,318,939	Ac.	115,947	4,753,828	29,289	25%
Frmstd. & Fdlt. Windbr.	15	65,714	Ac.	4,381	1,200,392	818	19%
Tree Planting	50	381,695	Ac.	7,634	1,679,473	640	8%
Wildlife Land Adeq. Trt.	40	201,331	Ac.	5,033	1,056,932	6,340	126%
* Terraces	25	6,210,000	Ac.	248,400	104,079,600	40,000	14%
* Erosion Control Str.	35	67,072	No.	1,916	15,971,881	880	46%
* Grassed Waterway	10	234,262	Ac.	23,426	36,203,457	5,518	24%
Ag. Waste Mgt. System	25	25,819	No.	1,033	5,759,860	27	3%
Pond	35	42,681	No.	1,219	3,847,235	527	43%
Subsurface Drains	35	1,935,173,007	Ft.	55,290,657	41,998,783	23,906,479	43%
Surface Drains	35	56,245,113	Ft.	1,607,003	1,446,303	487,468	30%
* Sediment & Water Control Strs.	25	1,199,073	Ac.	47,963	24,892,795	549	1.14%
Surface Mine Rec.	30	44,174	Ac.	1,472	5,982,237	174	12%
Wildlife Upld. Hab. Mgt.	40	1,402,319	Ac.	5,033	1,956,932	12,513	249%

TOTAL ANNUAL APPLICATION AND PERSONNEL COSTS TO ADEQUATELY TREAT IOWA'S LANDS $286,740,306

*These practices averaged for cost-share figures page 10.

(Source: Iowa Soil Conservation Districts' 1978 District Resource Inventory).

These rates are based on 1978 costs, operation, maintenance and administration costs are not included.

STATEMENT OF R. E. MYERS, STATE DIRECTOR, FARMERS HOME ADMINISTRATION, DES MOINES, IOWA

The purpose of this testimony is to explain Farmers Home Administration's position on the preservation of prime agricultural farm land, as well as the status of current land use policy.

LAND USE POLICY

A state land use policy will be formulated under the leadership of the community programs section with the supervision of the state director. This policy will be developed in accordance with the suggestions made in the Administrator's draft memorandum entitled FmHA 1980 Land Use Policy (Exhibit SD–2).

The Agency policy objective will be the prevention of irreversible conversion of prime agricultural land.

STATE FMHA LAND USE POLICY

The Secretary's Memorandum No. 1827, Revised, Statement on Land Use Policy (Exhibit SD–4) is now being considered by the State Coordination and Administrative Committee (SCAC) as to implementation in the state of Iowa. This committee has representation from all USDA agencies within the state. SCAC has designated a subcommittee for land use (of which FmHA is a member) which is now drafting a formal policy as to the Secretary's directive for the state of Iowa. Once the Land Use Policy for the state has been accepted by SCAC it will be forwarded to the Secretary noting the official position of all agencies. It is planned that this will be accomplished by Fiscal Year 1981.

It should be noted at this time that there has not been passed an official land use law by the State Legislature. There have been repeated attempts to enact such legislation, but proposals over the past years have not been politically acceptable.

In lieu of a SCAC Land Use Plan or acceptable legislative law, FmHA will follow its own interim policy in administering its loan and grant programs.

We are concerned that all actions relating to the use of natural resources will cause no irreversible conversion of important farm land, wetlands, forest land or encroachment on floodplains, unless other local, state or national interest override the importance of preservation outweighing the environmental benefits derived from this protection.

It should be noted where we are participants with other federal agencies and the above irreversible conversion is involved, we will offer our comments or suggestions as to alternate courses of action which might be contemplated.

FmHA recognizes that we must maintain economically viable rural areas, composed of farms and rural towns, goes with protecting and enhancing the environmental resources upon which these areas are dependent. It also recognizes that unless carefully reviewed, some proposals designed to serve rural communities can create adverse development pressures on land and environmental resources essential to farm economics. An example of this might be the extension of sewer and water systems beyond a community's existing corporate limits, causing development of commercial, residential, and industrial development without consideration of use of prime farm land for such expansion. While at the same time there may be existing sites for the same purpose within the corporate limits.

To avoid wasteful uses of these resources which produce undesirable results, rural community needs (i.e., residential, industrial, commercial, public facilities) will not be approved unless the following conditions are considered:

1. The project is planned and sited in a manner consistent with Secretary's Memorandum No. 1827 (Exhibit SD–4).

2. There is clear evidence of alternatives having been carefully considered of land use.

3. Where comprehensive and enforceable plans have been filed and passed, these will be used as a guide for growth to protect those important farm lands, floodplains, wetlands and forest lands.

4. A project will encourage long term economically viable public growth through development patterns such as compact community development; moderate to some high residential densities which might be appropriate to the area; development contiguous with existing community patterns; renovation and rehabilitation of existing structures, systems and neighborhoods whenever feasibly possible.

5. We will be mindful of protection to endangered species; habitats; protection of scenic areas; protection of historic and cultural properties and how it relates with other interagency initiatives.

6. All FmHA personnel will review with applicants as to the intent of land use policies as implemented by this agency.

Iowa has a number of existing regional rural water systems financed by FmHA, furnishing water to farms, rural residents and small communities.

These systems are located in areas of the state which have had historically either unreliable sources or quality of water or both. (See Exhibit C–2, Exhibit C–5). We believe these systems have increased living standards and the economic base of rural Iowa. It is not our intent to approve for construction design which would not provide for the orderly development patterns as outlined above but to approve designs consistent with FmHA land use or local zoning requirements as it relates to patterns of growth.

As an integral part of this Land Use Policy, all rural water systems applicants will be encouraged to seek resolutions of land use problems within the applicant's proposed area. The Agency will encourage land use planning and county zoning plans whenever a rural water system organization submits a preapplication. This is a suggestion and not a requirement because the Agency land use plans have yet to be written and it is anticipated that USDA will be preparing a permanent land use policy in the near future.

The statement as outlined here is an interim land use plan. It will be refined in the future to bring it in line with the development SCAC Land Use Statement and revisements of the Secretary's memorandum.

A completed FmHA Land Use Policy statement will be formulated during the 1981 Fiscal Year. Community Programs will be the lead section for the purpose of writing the plan. The state director will appoint the persons necessary to write for all levels of the Agency. A representative of Community Programs will be designated the chairman.

While formulating this plan, we will consult and educate those outside our Agency as to the purpose of the FmHA plan for the state.

EXHIBIT SD–2

Subject: Farmers Home Administration land use policy (draft policy).

To: Area coordinators, Deputy Administrators, Assistant Administrators, Division and Staff Directors, and all State directors.

The purpose of this memorandum is to establish a land use policy for the Agency. Following the release of the attached Secretary's Memorandum No. 1827, Revised, Statement on Land Use Policy, a task force composed of a variety of Agency officials, including the Deputy Administrator for Rural Development, Area Coordinators, Assistant Administrators, and some State Directors, developed draft implementation policies. Their recommendations have provided the basic thrust and essential framework for the policy which is now being announced.

A. CONTENT OF POLICY

1. Natural Resource Protection and Economic Objectives

FmHA recognizes that its specific mission of maintaining economically viable rural areas, composed of farms and rural towns, goes hand in hand with protecting and enhancing the environmental resources upon which these areas are dependent. Basic resources necessary to both farm and rural settlements include important farmlands and forestlands, prime rangelands, wetlands, and floodplains. The definitions of these areas are contained in the Appendix to the Secretary's Memorandum.

Given the importance of these resources as emphasized in the Secretary's Memorandum and Executive Order 11988, "Floodplain Management" and Executive Order 11990, "Protection of Wetlands," it is FmHA policy not to fund any proposals that as a result of their direct or secondary impact would lead to or accommodate either the conversion of these land uses or encroachment upon them. The only exception to this policy is if the approving official determines that (1) there is no practicable alternative to the proposal, (2) the proposal conforms to the planning criteria identified in the following paragraph, (3) the proposal includes all practicable measures for reducing the adverse impacts and the amount of conversion/encroachment, and (4) the requirements of the Executive Orders pertaining to wetland and floodplain protection have been fully met.

It is also recognized that unless carefully reviewed, some proposals designed to serve the needs of rural communities can adversely affect the existing economic base and settlement patterns of the community, as well as create development pressures on land and environmental resources essential to farm economies. An example of such a proposal might be the extension of a water or sewer system beyond a community's existing settlement pattern and into important farmlands for the purpose of commercial, industrial, or residential expansion, even though there is available space within the settlement pattern for such expansion. Not only may the loss of important farmlands unnecessarily result, but the community may be faced with the economic costs of providing public services to outlying areas, as well as the deterioration of its central business/commercial area; the latter may not be able to compete with the newer outlying commercial establishments. These results are clearly contrary to basic FmHA missions. In addition, wasteful energy consumption patterns result particularly from the extended transportation needs fostered by such development. To avoid the occurrence of these undesirable results, projects designed to meet rural community needs (i.e., residential, industrial, commercial, public facilities) will not be approved unless the following conditions are met:

(1) The project is planned and sited in a manner consistent with the land use policies of this memorandum and the Secretary's Memorandum;

(2) There is clear evidence of alternatives having been carefully considered, and no feasible alternatives having less community disruption or adverse socioeconomic impacts being rejected;

(3) The project conforms to a comprehensive and enforceable plan to guide growth which reflects a strategy for protecting natural resources including important agricultural lands; and

(4) The project will encourage long term economically viable public investment through development patterns which ensure:

(a) Compact community development,

(b) A range of moderate to high residential densities appropriate to local and regional needs,

(c) Development contiguous with existing settlement patterns,

(d) Infilling of development, and

(e) Rehabilitation and renovation of existing structures, systems, and neighborhoods whenever possible.

These criteria should not be construed as advocating excessive densities, congestion, or loss of open space amenities within rural communities. Desirable living conditions can be obtained under these objectives along with economic and social benefits for the community and the surrounding farm operations. Additionally, these conditions should not be construed as requiring localities to develop plans which contain them or do so amend existing plans. Such action is strongly encouraged, however. In any instance in which these planning criteria do not exist within the project area, project reviews will not be postponed until the criteria are adopted. Rather, projects shall be reviewed and funding decisions made in light of a project's consistency with the contents of this memorandum (excluding item (3) in the paragraph immediately above, which would not be applicable).

2. Protection of Endangered Species: Habitats

FmHA shall not authorize, fund, or carry out actions that will result in (1) jeopardizing the continued existence of plant and wildlife species listed by the Secretary of Interior as Endangered and Threatened; or (2) the destruction or adverse modification of the habitats of listed species when such habitats have been determined critical to the species' existence by the Secretary of Interior.

3. Protection of Wild and Scenic Rivers

FmHA shall not provide financial assistance or plan approval for any water resource projects, housing construction, community facilities, industrial/commercial development, or farm assistance projects which would have a direct and adverse effect on the values for which a river has been either included in the National Wild and Scenic Rivers System or is designated for potential addition.

4. Protection of Historic and Cultural Properties

In the completion of environmental impact analyses for applications, FmHA shall identify important cultural resources to be impacted and make provisions for their recovery, preservation, or protection. Consultations will be undertaken with State Historic Preservation Officers and the Advisory Council on Historic

Preservation, through the implementation of Instruction 1901–F, in order to determine the most appropriate course of action for protecting the resources or mitigating potential adverse impacts to them.

5. Reuse of the Built Environment

FmHA supports the rehabilitation, adaptive reuse, and renovation of existing structures, systems, and neighborhoods where consistent with statutory requirements. These alternatives will be encouraged rather than new construction whenever there is a basis for cost savings, energy conservation, community or neighborhood cohesion, historic preservation, or resource conservation. When cost savings are not apparent, reuse will be encouraged when these other benefits outweigh the additional cost.

6. Protection of Scenic Resources

FmHA shall advocate the conservation of natural and manmade scenic resources in order to protect and enhance the visual quality of the rural landscape.

7. Interagency Initiatives

On a broader scale, FmHA shall, in coordination with other USDA agencies, advocate the retention of important farmlands and forestland, prime rangeland, wetlands and floodplains or other land resources designated important by state or local governments whenever conversions are (1) caused or encouraged by actions or programs of a federal agency, (2) licensed by or require approval by a federal agency, or (3) inconsistent with local or state government plans.

FmHA shall also assist local and state governments, planning and development organizations or agencies, citizens groups, and individual landholders in identifying and defining their growth development and environmental needs, selecting and choosing among alternatives to meet these needs and implementing projects or programs to satisfy those needs.

B. IMPLEMENTATION OF POLICY

1. Land Use Policy

The State Director shall develop a land use policy. The policy shall be consistent with and reflect the objectives and policies contained in this memorandum. At the same time, however, it must be tailored to take into account important State, regional, and local land use objectives.

The State Director shall complete the land use policy within twelve months from the effective date of this memorandum. The policy shall be prepared in draft form and be provided to appropriate state agencies, state and regional clearinghouses, as well as interested localities, groups, and citizens for review and comment. Also, at least one public information meeting will be held on the draft. Upon completion of this public review, the draft will be revised as necessary in light of the comments received and provided as a final draft to the Administrator for review and approval. Any concerns and comments of the Administrator will be addressed, and the policy statement completed. The land use policy shall then become part of the State's Rural Development Management Plan.

The land use policy needs to be developed in full recognition of its role as an Agency planning tool and with sensitivity to the need for consistency between it and the elements of the Management Plan. The basic goal of this policy then is to establish a mechanism which focuses the Agency's statewide investment strategies in an internally consistent manner which is likewise consistent with the land use objectives of this memorandum. The adequacy of the land use policy and Management Plan will be judged on its ability to meet this goal.

Once the Administrator approves the land use policy, it will become effective approximately four months from that date. This interim period shall be used to inform local and state agencies, localities, organizations, and interested citizens of the content of the policy. In this manner, those parties intending to seek FmHA assistance or to coordinate FmHA assistance programs with theirs will be able to gain for their planning needs an understanding of our investment strategies. The number of requests for financial assistance from these parties which are inconsistent with FmHA land use objectives should, thereby, be substantially reduced.

Completed land use policies shall be reviewed annually and updated by the State Director to reflect newly identified geographical areas of concern or policy revisions at the national, state, regional or local level. They will also be revised, as necessary, through appropriate guidance from the Administrator. Annual revisions will be completed so that they are available prior to the development of new Management Plans. These revisions shall be transmitted to the Administrator and shall be considered approved if either no comments are raised by the Administrator within 30 days of the State Director's transmittal letter or the Administrator specifically approves them before the 30 days expire.

The foundation for the land use policy is the identification of the types of land uses or environmental factors deserving attention and their geographical location within the state. An inventory shall be developed, therefore, of the important land uses within the state. This inventory will be accomplished by assembling existing data and information, and at a minimum shall consist of documents, listings, maps, or graphic materials describing the location of the following land uses and environmental factors:

(a) National Register of Historic Places to include monthly supplements, as published by the Department of Interior (DOI);

(b) Rivers designated as part of the Wild and Scenic Rivers System and rivers under study for inclusion in the System, as published by DOI;

(c) Prime and unique farmlands;

(d) Prime rangelands;

(e) Prime forestlands;

(f) Wetland inventory;

(g) Floodplain inventory;

(h) Endangered Species and Critical Habitats as designated by DOI;

(i) Sole source aquifer recharge areas as designated by EPA;

(j) Air Quality Control Regions as designated by EPA;

(k) State inventories or planning documents identifying important land uses, particularly those not covered by the above items, such as wildlife refuges, important habitats, and areas of high water quality, or scenic or recreational value;

(l) Agricultural districts or other similar zoning classifications for agricultural lands protection; and

(m) Coastal Zone Management Areas.

The National Office Environmental and Technology Staff shall be responsible for assisting State Offices in obtaining listing and inventories of resources protected by federal statutes and regulations. The State Director will have responsibility for assembling documents on state level resources.

Development of the inventory will require consultation and assistance from a variety of agencies and experts. This consultation should begin with Department agencies and be accomplished through the State Land Use Committee and Rural Development Committee. The focus of these discussions should be to determine the land classification data that has already been compiled and that which is underway either by USDA agencies or their counterparts at the state level. The Memorandum of Agreement that was executed last May between the Soil Conservation Service (SCS) and FmHA should be utilized as the basis in seeking SCS's assistance in this effort.

District contacts should then be made with state agencies, in particular with the office of state planning, to determine the availability of state inventories and state land use policies and priorities. Similar discussions should be held with substate regional planning agencies and clearinghouses, with assistance being provided in this effort by District Directors. County Supervisors shall be responsible for being familiar with and for providing to the State Office similar inventories, land use policies or protective requirements developed by the local government agencies within the Supervisor's territorial jurisdiction.

Another important element of the land use policy shall be the examination of any major environmental impacts on the state or a substate area resulting from the cumulative effects of FmHA assisted actions over the last several years. In this examination, particular emphasis should be given to the cumulative impacts of water resource projects such as irrigation systems. This should be done in consultation with experts within the appropriate state agencies and the U.S. Geological Survey. The housing programs should also be given a particular emphasis with respect to their cumulative impacts. More detailed guidance on the accomplishment of this cumulative impact section of the land use policy, as well as the overall content of the land use policy, shall be provided by the National Office Environmental and Technology staff.

In preparing the state's land use policy and in assembling inventories of critical resources, Agency staff should not lose sight of the basic purposes of this effort. The development of lengthy and complex policies and the amassing of huge inventories is not our goal. In the end, the material must be usable and serve as a tool for better decision making. The basic purposes of this policy and inventory, then, are to provide a basis for developing statewide investment strategies that (1) do not conflict with federal, state, and local mandates to preserve and protect important land and environmental resources, (2) do not create short or long term development pressures which would lead to the conversion of these resources, and (3) which effectively support and enhance federal, state, and local plans to preserve these resources.

2. *Reuse of the built environment*

All applicable program regulations shall be amended to reflect our policy for the reuse of the built environment. The amendments shall also remove, where there are no overriding statutory limitations, any existing impediments for achieving this policy objective. Finally, the amendments shall reflect the FmHA position that reuse will be an approvable alternative whenever it meets the applicant's basic need and results in a cost savings. In those instances in which there is not a cost savings, the additional cost of reuse shall be measured against any potential benefits derived from resource conservation, historic preservation, community or neighborhood cohesion, and energy conservation. If, in the judgment of the approving official, the additional cost is reasonable in light of these benefits to be derived, reuse will be the preferred alternative. The benefits of reuse will be given particularly great weight in the case of historic properties.

3. *Interagency initiatives*

National Office staff and State Directors shall inform their counterparts in federal and state agencies of the contents of this FmHA land use policy as well as the State Office policies. When commenting on proposed federal actions subject to environmental impact statements, commentors will focus on the consistency of these actions with our national and appropriate state land use policy. A similar focus or element shall be addressed in the Agency's review of the Environmental Protection Agency's 201 Wastewater Management Plans.

C. EFFECT ON REVIEW OF INDIVIDUAL PROJECTS

Although a 12-month period has been established for the completion of a land use policy, nothing in this memorandum is to be construed as curtailing the Secretary's Memorandum with respect to individual project reviews. Each approving official shall, prior to the approval of a project, determine and document that the project conforms to the Secretary's Memorandum. As indicated in the Supplement to the Memorandum, Executive Order 11988 shall be implemented by utilizing, to the extent practicable, the decision making process contained in Part II, Floodplain Management Guidelines for Implementing Executive Order 11988 (43 FR 6030, dated February 10, 1978). If there are any questions with respect to implementing these project-related requirements, please contact the Environmental and Technology Staff. That staff shall also be responsible for assisting you in initiating the development of your land use policies.

All State Directors shall share this memorandum with State, District and County Office Staff. State Directors shall also be responsible for providing implementaiton guidance to this staff. The State Office land use policy should likewise be developed with as much participation as possible from District and County Office staff.

GORDON CAVANAUGH,
Administrator.

EXHIBIT SD-4

U.S. DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
Washington, D.C., October 30, 1978.

SECRETARY'S MEMORANDUM No. 1827, REVISED

STATEMENT ON LAND USE POLICY

1. *Purpose*

This memorandum establishes a departmental policy to promote attainment of land use objectives that are responsive to the needs of the people. This policy is supportive of the constitutional responsibilities of State and local governments for making and implementing public policy regarding land use. This policy is designed to contribute to improved social and economic well-being and to protect the quality of the environment. In formulating and implementing this policy, it is the intent of the Department to (a) assist local and State governments and individual landholders in defining and meeting needs for growth and development; (b) protect the natural environment; and (c) assure adequate supplies of high-quality food, fiber, wood, and water.

The policy is supportive of the President's Urban Policy, Executive Order 11990, Protection of Wetlands, and Executive Order 11988, Floodplain Management, and is consistent with responsibilities assigned the Secretary under the provisions of 7 U.S.C. 1010 and 7 U.S.C. 2204.

2. *Background*

Environmental, economic, and social needs and related land use decisions are matters of concern to the Department of Agriculture. Decisions concerning land use arise from needs to maintain and stimulate economic development, maintain and enhance agricultural, rangeland, and forest production capabilities; provide or improve community services, facilities, and living space; to preserve the natural environment and associated wildlife and recreational values; and to assure adequate supplies of high-quality water. These needs are highly interdependent and often competitive for the limited supply of available and suitable land. Responsible levels of Government must encourage and facilitate the use of our Nation's land resources with wisdom and foresight.

The Department of Agriculture has numerous programs, and makes decisions, that affect the use and availability of land in public and private ownership. To help carry out these programs, the Department has established a program delivery capability at the local level and cooperative arrangements with State and local governments. The Department has the organizational structure, leadership capability, and the professional and technical skills essential to advise and assist local and State governments and private landholders in matters dealing with the Nation's land resources. In accordance with the authority contained in 7 U.S.C. 1010 and 7 U.S.C. 2204 and consistent with 7 C.F.R. 2.19(f), the Department sets forth this statement of policy on land use. This statement reflects the Department's concern with the serious challenges the Nation faces in retaining an adequate natural resource base and in meeting environmental, social, and economic needs.

3. *Policy*

The Department will:

A. Continue to recognize and respect the rights and responsibilities of landholders in making private land use decisions, and the rights and responsibilities of State and local governments in developing public policies regarding non-Federal land use.

B. Implement this policy in the administration of its public lands consistent with legislative authorities controlling their use. They will be administered in such manner as to demonstrate leadership in meeting short- and long-term needs for growth and development; to protect the natural environment; and to assure adequate supplies of food, fiber, wood, and water.

C. Manage USDA-administered lands with a sensitivity to the effect which their management will have on adjacent private and public land. Whenever logical, the management of these lands should be coordinated with the management of adjacent private and other public lands.

D. Make decisions and manage its land use-related programs to contribute to the Nation's short- and long-range needs for protecting the natural environment; assuring adequate supplies of food, fiber, wood, and water; and providing for economic growth and development, energy and other facilities and services, and living space in our communities.

E. Assist local and State governments, planning and development organizations or agencies, citizens' groups, and individual landholders in identifying and defining their growth, development, and environmental needs; selecting and choosing among alternatives to meet those needs; and implementing projects or programs to satisfy those needs.

F. Advocate the retention of Important Farmlands and Forestlands, Prime Rangeland, Wetlands, or other lands designated by State or local governments whenever proposed conversions are: (1) caused or encouraged by actions or programs of a Federal agency; (2) licensed by or require approval by a Federal agency; or (3) inconsistent with local or State government plans. Provisions will be sought to assure that such lands are not irreversibly converted to other uses unless other national interests override the importance of preservation or otherwise outweigh the environmental benefits derived from their protection. In addition, the preservation of farmland in general provides the benefits of open space, protection of scenery, wildlife habitat and, in some cases, recreation opportunities, and controls on urban sprawl.

G. Advocate actions that reduce the risk of flood loss, minimize impacts of floods on human safety, health, welfare, and restore and preserve the natural and beneficial functions and values of flood plains.

H. Advocate and assist in the reclamation of abandoned surface-mined lands and in planning for the extraction of coal and other nonrenewable resources in such manner as to facilitate restoration that will reestablish the prior productivity of the land, as mining is completed in defined areas or sites.

I. Advocate the protection of threatened and endangered animal and plant species and their habitats, designated archeological, historic, and cultural sites, and designated ecosystems.

J. Advocate the conservation of natural and man-made scenic resources, improve the technical ability of agencies to identify and evaluate scenic resources, and assure that its agencies protect and enhance the visual quality of the landscape.

4. Implementation

A. Each agency of the Department having programs or actions that may cause or encourage irreversible conversions of Important Farmlands and Forestlands, Prime Rangeland, and Wetlands, as defined in the Appendix, or that may cause or encourage encroachments on flood plains, will review such programs or actions and related administrative rules, regulations, bulletins, and practices. Within one year these agencies will make such changes as are necessary to bring agency programs or actions into compliance with the provisions of this Memorandum.

Agencies will assure that their actions, investments, and programs on non-Federal lands are consistent with State and local land use plans and programs to the extent practicable.

In carrying out the above, agencies will:

(1) Cooperate to establish a coordinated land use data base and coordinated data collection systems for use within the Department and by the Federal, State, and local governments;

(2) Attempt to integrate departmental and State and local land use policies and programs;

(3) Identify and minimize to the extent practicable adverse environmental economic, and social effects of agency projects and programs;

(4) Provide landholders and other concerned people information about the alternatives to, and the associated environmental, social, and economic implications of proposed actions;

(5) Refrain from converting or enabling others to irreversibly convert these lands or encroaching or enabling other encroachments on flood plains unless there are no practicable alternatives.

B. The Department will intercede, consistent with the policy contained in this Memorandum, in decisionmaking by other Federal agencies where conversions of Important Farmlands and Forestlands, Prime Rangeland, and Wetlands, are caused or enabled by an agency of the Federal Government, or where conversions require Federal licensing or approval. Intercession will be through participation in the planning of projects when invited and through review and comment on draft environmental impact statements or proposals for actions of Federal agencies consistent with authorized administrative review procedures for Federal or Federally assisted actions.

C. The Department will encourage State and local governments and individual landholders to retain Important Farmlands and Forestlands, Prime Rangeland, and Wetlands, and avoid encroachment on flood plains.

The Department will:

(1) Generate and disseminate information and provide organizational, leadership, planning, and technical assistance in the application of knowledge useful to local or State officials, groups, or individual landholders in understanding the social, economic, and environmental implications of converting such lands;

(2) Provide assistance to State, area-wide, and local planning and development groups, citizens groups, and individual landholders in evaluating alternative

uses for land. Evaluations will consider soil suitability based on physical and chemical characteristics, site (location and adjacent uses), and other environmental, economic, and social factors;

(3) Cooperate with others in defining, inventorying, evaluating, and publishing descriptions of the Nation's lands, including wetlands and flood plains, consistent with legislative and administrative authorities;

(4) Provide decisionmakers and the general public with information on the kind, extent, location, ownership, and current status of the Nation's lands;

(5) Conduct multidisciplinary land use research that is responsive to identified State, local, and national needs;

(6) Conduct educational programs on land use and land use research findings;

(7) Encourage and facilitate public participation in land use planning and decisionmaking;

(8) Cooperate with local, State and other Federal agencies in locating and evaluating sites for: (a) Extracting minerals and nonrenewable energy resources and the reclamation of surface mined lands; (b) energy-producing facilities; (c) economic growth and development; and (d) facilities and services in local communities; to limit adverse environmental impacts of these activities or to find alternatives to the conversion of Important Farmlands and Forestlands, Prime Rangeland, and Wetlands;

(9) Cooperate with area-wide and State clearinghouses designated under the provisions of OMB Circular A-95 in the review of Federally aided projects with potential impacts on Important Farmlands and Forestlands, Prime Rangeland, and Wetlands.

D. The USDA Land Use Committee, created under Secretary's Memorandum No. 1807, Revised, dated December 14, 1977, will provide Department-wide leadership for the implementation of this policy statement. The Committee will encourage and monitor USDA agency responses and coordinate with other Federal agencies to carry out the provisions of this Memorandum. The Committee will advise the Secretary annually as to progress in the implementation of this policy.

This Memorandum supercedes Secretary's Memorandum No. 1827, dated October 26, 1973, and Supplement No. 1, dated June 21, 1976.

BOB BERGLAND,
Secretary of Agriculture.

Attachment.

APPENDIX

DEFINITIONS

The following definitions apply to the provisions of Secretary's Memorandum No. 1827, Revised.

Important farmlands[1]

Prime farmlands.—Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these (the land could be cropland, pastureland, rangeland, forest land, or other land, but not urban built-up land or water).

In addition to the criteria above, for purposes of this policy statement, site (location and adjacent uses) and other economic and social factors will be given due consideration.

Unique farmland.—Unique farmland is land other than prime farmland that is used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality and/or high yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops are citrus, tree nuts, olives, cranberries, fruit, and vegetables.

Additional farmland of statewide importance.—This is land, in addition to prime and unique farmlands, that is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. Criteria for definining and delineating this land are to be determined by the appropriate State agency or agencies

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[1] USDA's Important Farmland Inventory, 7 CFR, part 657.5.

Additional farmland of local importance.—In some local areas, there is concern for certain additional farmlands for the production of food, feed, fiber, forage, and oilseed crops, even though these lands are not identified as having national or statewide importance. Where appropriate, these lands are to be identified by the local agency or agencies concerned.

Prime forestlands[2]

Because of the multiple-use of forested lands, several categories, i.e., timber, wildlife, and recreation may be developed. For purposes of this Memorandum only, the following timberland definitions will apply.

Prime timberland.—Prime timberland is land that has soil capable of growing wood at the rate of 85-cubic feet or more/acre/year culmination of mean annual increment (site 3 or better) in natural stands and is not in urban or built-up land uses or water. Generally speaking, this is land currently in forest, but does not exclude qualifying lands that could realistically be returned to forest.

Unique timberland.—Unique timberlands are lands which do not qualify as prime timberland on the basis of producing less than 85-cubic feet/acre/year, but are growing sustained yields of specific high value species or species capable of producing specialized wood products under a silvicultural system that maintains soil productivity and protects water quality.

Timberland of statewide importance.—This is land, in addition to prime and unique timberlands, that is of Statewide importance for the growing of wood. Criteria for defining and delineating these lands to be determined by State forestry planning committees or appropriate State organizations.

Timberland of local importance.—In some local areas, there is concern for certain additional forest lands for the growing of wood even though these lands are not identified as having national or Statewide importance. Where appropriate, these lands are to be identified by a local agency or agencies concerned.

Prime rangeland[3]

Prime rangeland is rangeland which because of its soil, climate, topography, vegetation, and location has the highest quality or value for grazing animals. The (potential) natural vegetation is palatable, nutritious, and available to the kinds of herbivores common to the area.

Because of the kind, quality, or seasonal characteristics of the forage produced on it, prime rangeland makes a significant contribution to the range livestock industry of the area and exerts a profound influence on well-being of local communities. Prudent grazing can be accomplished without significant degradation of the environment.

Wetlands[4]

Wetlands means those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetable or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mudflats, and natural ponds.

Other farm, forest, range, or wetlands designated for protection by State or local governments.—Those lands, defined and identified by State or local jurisdictions or regional governing bodies which are of substantial importance to them. The importance might stem from the lands siting, economic, environmental, open space, or other values.

Other terms

Flood plains.[5]—The term "flood plain" shall mean the lowland and relatively flat areas adjoining inland and coastal waters including floodprone areas of offshore islands, including at a minimum, that area subject to a one-percent or greater chance of flooding in any given year.

Food, fiber, and wood.—Food, fiber, and wood are the production of food, feed, forage, fiber, oilseed, ornamental plant materials, and wood for all purposes, including seed production and planting stock.

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[2] Prime Forest Land Definition and Criteria, USFS, May 26, 1977.
[3] Draft USDA Definitions (for intra-departmental use only).
[4] Executive Order 11990, Protection of Wetlands, May 24, 1977.
[5] Executive Order 11988, Floodplain Management, May 24, 1977.

U.S. Department of Agriculture,
Office of the Secretary,
Washington, D.C., October 30, 1978.

Secretary's Memorandum No. 1827, Revised

Supplement No. 1

IMPLEMENTATION OF EXECUTIVE ORDERS 11988, FLOOD PLAIN MANAGEMENT AND 11990, PROTECTION OF WETLANDS

Background

Two Executive Orders were issued in May of 1977 as important components of the President's message on the environment. These Orders require all executive agencies to avoid disrupting wetlands or flood plains wherever there are practicable alternatives in delivering their programs and to minimize any environmental harm that might be caused by Federal actions where no practicable alternatives exist. The Orders require executive agencies to establish procedures for compliance. Specifically, executive agencies are required to issue or amend program regulations and procedures and to incorporate the provisions of the Executive Orders into agency planning and decisionmaking. Executive agencies are required to assure that consideration for wetlands and flood plains will be part of existing programs and will not cause unnecessary duplication or delay in government operations.

Scope of USDA programs covered

Land use-related programs of the following Administrations and Services are subject to the Orders' directives: Soil Conservation Service; Science and Education Administration; Rural Electrification Administration; Forest Service; Farmers Home Administration; Agricultural Stabilization and Conservation Service; and the Economics, Statistics, and Cooperatives Services.

Directives

1. The Soil Conservation Service, the Agricultural Stabilization and Conservation Service, the Forest Service, the Rural Electrification Administration, and the Farmers Home Administration will identify and review, and make necessary changes in their respective regulations and rules for all programs that may cause conversions of wetlands or which might enable others to convert wetlands to alternative uses, or that may cause or enable others to cause the construction of encroachments on flood plains. Such changes as necessary to comply with Executive Orders 11988 and 11990 shall be made by November 1, 1978.

2. Those services and administrations listed above, together with the Science and Education Administration, and the Economics, Statistics, and Cooperatives Service will identify and review and make necessary changes in those programs that may indirectly affect flood plains or wetlands by influencing decisions made by local and State government officials, planning and development organizations or agencies, or individual firms and landholders. In conducting these programs, increased attention will be given to:

A. Generating and disseminating knowledge and providing technical assistance in the application of knowledge that may be useful to local and State government officials, planning and development groups or agencies, or individual firms and landholders in understanding the natural and beneficial functions and values of wetlands and flood plains and in preserving and utilizing such lands.

B. Assisting State and local governing officials, planning and development groups or agencies, and individual firms and landholders to identify and study the feasibility of, and to implement, alternatives to converting or encroaching on flood plains in meeting their growth and development needs.

3. All affected services and administrations will utilize the systematic, interdisciplinary approach for the identification of environmental impacts of all actions on or affecting wetlands as contained in the National Environmental Protection Act of 1969, Section 102(2)(c). To the extent practicable, the decisionmaking process contained in Part II, Floodplain Management Guidelines for Implementing Executive Order 11988 (43 FR 6030, dated February 10, 1978) will be utilized.

4. All affected services and administrations will identify, define, specify, and propose remedies for any legal, legislative, or other constraints that limit the agency's capacity to comply fully with the provisions of these Executive Orders.

5. The Department of Agriculture's Land Use Committee, created under the provisions of Secretary's Memorandum No. 1807, Revised, will provide interagency leadership for bringing the Department into compliance with the spirit and intent of Executive Orders 11988 and 11990.

6. The Office of Environmental Quality Activities will monitor actions and progress of the Department in complying with Executive Orders 11988 and 11990.

BOB BERGLAND,
Secretary of Agriculture.

[The following articles were submitted by Mr. Andrew. See p. 129 for the oral testimony of Mr. Andrew.]

[Reprinted from the Des Moines Sunday Register, July 6, 1980]

PLAN TO DIVERT IOWA WATER HAS OFFICIALS WORRIED

(By Otto Knauth)

A plan to divert water from the Missouri River into Texas, Oklahoma and Colorado has Iowa officials worried that the river's diminished flow would affect fish and wildlife and barge transportation.

The danger isn't immediate—the ambitious project would not be completed for at least 20 years if it is approved, officials say.

But the Army Corps of Engineers is studying a plan to divert water from the mighty Missouri through a system of pipes and canals into the western High Plains, where heavy agricultural demand is using up available water supplies faster than they can be replenished naturally.

No cost estimate for the proposal has been made yet, but the engineering feat would rival any of the great water projects of the last century. The water from the Missouri would have to be pumped up 2,000 feet in elevation to the High Plains and then south and west hundreds of miles, crossing four big rivers, to reservoirs that would be built in Colorado, Kansas and Texas.

The High Plains region has relied for its water on the Ogallala Aquifer, a vast expanse of water-bearing rock beneath the surface of six western states—Nebraska, Kansas, Colorado, New Mexico, Oklahoma and Texas.

IRRIGATION WIDESPREAD

Farmers and land owners in these six states built a prolific agricultural economy over the last 20 years by using water from the Ogallala for irrigating their crops.

Without water—and the area generally gets an average of only 17 inches of precipitation a year—the land is near desert.

Irrigation makes it bloom. The soils are deep and fertile. The surface over the Ogallala contains 90 million acres of irrigable land. In 1978, it produced one quarter of all the feed grains in the United States for export. It had nearly half of all the cattle on feed.

But the bonanza is coming to an end. Water for irrigation is being withdrawn at "a rate far in excess of natural recharge," according to a report by the Corps of Engineers. So drastic has been the drop in the water table that, according to another report, "much of the area could be forced to revert to dryland farming or be abandoned in the near future.

"Deterioration of the agricultural economy of the High Plains-Ogallala Aquifer region would have grave consequences for the business and financial communities outside as well as those located within the region," the report warned.

Faced with disaster, the governors of the six states persuaded Congress in 1976 to appropriate $6 million for a study of how the region could be saved. The Economic Development Administration of the Department of Commerce was put in charge of the study.

A High Plains Study Council composed of the governors of the six states was formed. An Austin, Texas, firm, Camp Dresser & McKee, was hired as general consultant to conduct the study, and the Southwestern Division of the Corps of Engineers in Dallas was put in charge of finding new water sources.

One of the chief alternatives under study in Dallas calls for taking water from the Missouri River to replenish the Ogallala Aquifer.

According to one plan, water would be taken from the river at the Fort Randall Dam, where the Nebraska-South Dakota border meets the river, about 120 miles upstream from Iowa. From there the water would be routed southwest across Nebraska, either in a huge pipe or in a canal, to northeastern Colorado, then more or less due south along the Front Range of the Rocky Mountains into the panhandles of Oklahoma and Texas.

The canal and pipe system would have to cross big rivers, such as the Platte, Republican, Arkansas and Canadian. Some crossings would be on bridges, some by siphons under the streams.

Huge amounts of electrical power would be needed for pumping the water up 2,000 feet to the High Plains and into the diversion system.

Large storage reservoirs would be built, according to preliminary plans, on the South Fork of the Republican River near the present Bonny Reservoir near Burlington, Colo.; on the Arkansas River near Dodge City, Kan.; on the Canadian River near Canadian, Texas, and at Bull Lake, near Littlefield, Texas, northwest of Lubbock.

Another alternative under study would take the water from the river below Iowa, near St. Joseph, Mo., route it southwest across Kansas and then south as in the Fort Randall plan.

Still other water sources being considered involve a number of smaller rivers in Arkansas.

The various alternatives were contained in Resolution No. 8 which the High Plains Study Council considered at a meeting last April 17. All but the Fort Randall plan were accepted.

Consideration of the Fort Randall plan was delayed at the request of Nebraska Gov. Charles Thone, who has been pushing barge navigation on the Missouri. Since then, the Corps has been conducting a number of public meetings on the plan across Nebraska to sample public opinion.

Needless to say, Iowa officials are not enthusiastic about reducing the flow of the Missouri River. The Iowa Conservation Commission has long deplored the Corps' straightening and channeling of the river for navigation purposes, with its drastic loss of fish and wildlife habitat. Low flows on the river could reduce these even further.

"We've been studying this in a preliminary way," said Bob Fagerland, the commission's acting director, "and our best judgment so far is that we would be very much against it. We look at it with an attitude of cautious pessimism."

For James Webb, director of the Iowa Natural Resources Council, the Fort Randall diversion would be just another in a series of schemes that have been proposed that could curtail Iowa's rights to the Missouri's water.

"We don't want to see our water rights diminished for the benefit of the people in the Southwest," he said. "We're very wary of this plan, but we'll want to see the various final alternatives before we decide on what action we may take."

In any case, Webb said, Iowa would not tolerate any reduction in the river's volume below the present navigation flow, the minimum amount needed for barge transportation. The barges require a 9-foot-deep channel.

Webb said he also is concerned about using Missouri River water to transport Wyoming and Montana coal through "slurry" pipelines into the Midwest. If such a project ever were constructed, it would use tremendous amounts of water, he said.

Another plan, the Garrison Diversion Ditch in North Dakota, has been stopped at least temporarily by farmers protesting the large areas of land the plan would take out of production. The ditch would divert water for irrigation.

One of the aspects of the entire diversion proposal that bothers Iowa officials is that the Missouri River study is being done by the Southwest Division of the Corps, rather than by the Missouri Division, with headquarters in Omaha.

"I think we'd feel more comfortable about this if it were being done by the Missouri Division," said Chris Knowles, an environmental resources planner for the Iowa Natural Resources Council. He said he thought the Omaha-based engineers would be more apt to listen to Iowa's comments on the plan.

The High Plains diversion project is not the first such plan to use Missouri River water, but some officials think it has a better chance of succeeding than previous ones.

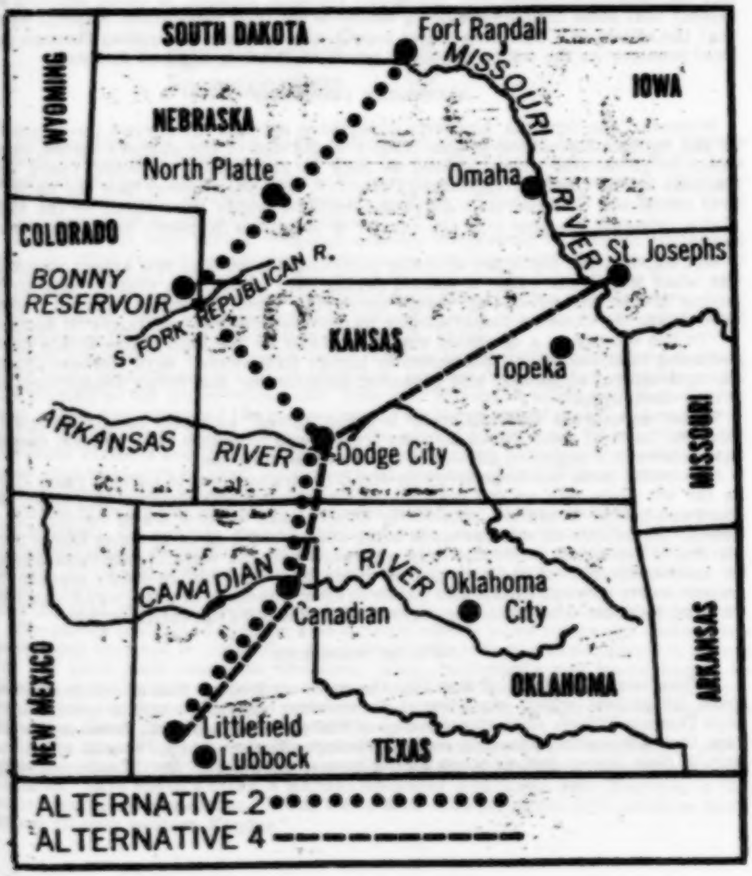
An earlier, far more ambitious project was proposed in 1967. This called for damming the Niobrara River in northern Nebraska, reversing its flow and pumping huge amounts of Missouri water up the Niobara and into a large canal that would carry it south.

It was estimated the pumps would require up to 35 billion kilowatt-hours of electricity annually, almost three times the entire generating capacity of all six of the main-stem dams on the river.

That plan never got off the ground but the Corps' Omaha District is studying a scaled-down version of it.

The High Plains promoters have even cast covetous eyes on Canada's water. Canada, the Corps study says, has an estimated 40 percent of the world's fresh water, most of it flowing unused into the Arctic Ocean.

Under the original mandate from Congress, a final report on the High Plains study was to be ready by June 30, 1980. But because of delays in hiring a contractor, the due date has been set for June 30, 1982. The contractor, Camp Dresser & McKee, is to submit a preliminary report to the High Plains Study Council by March 31, 1982.


SOUTH DAKOTA
Fort Randall
MISSOURI
IOWA
WYOMING
NEBRASKA
North Platte
Omaha
RIVER
COLORADO
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REPUBLICAN R.
S. FORK
KANSAS
Topeka
MISSOURI
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CANADIAN
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Oklahoma City
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ALTERNATIVE 2 ●●●●●●●●●●●●●
ALTERNATIVE 4 ————————

The Army Corps of Engineers is studying a plan that would divert water from the Missouri River through a series of canals and pipes to Texas, Oklahoma, Kansas, Colorado and Nebraska.

[Reprinted from the Wall Street Journal, Aug. 6, 1980]

Huge Area in Midwest Relying on Irrigation Is Depleting Its Water

(By Steve Frazier and Brenton R. Schlender)

Earth, Tex.—K. B. Parish grabs a stunted ear of corn from the thick forest of stalks and peels back the husk. His fears are confirmed. The uneven kernels inside show that his high-priced irrigation system, stymied by the drought and a dwindling underground water supply, has met its match.

"Our pumps are fixin' to fly all to pieces," Mr. Parish frets. Farmers' nerves are strained, too, as record heat and drought pound home the fact that much of the agriculture on the high plains relies on a shrinking water supply that grows ever more expensive to tap. Mr. Parish's corn harvest will drop 20 percent this year while his costs jump 40 percent. "We might lose even more money than the dryland boys this year," he says.

Similar problems afflict thousands of farmers in a California-sized area stretching from the Texas Panhandle to South Dakota. What explorers once called the Great American Desert has, over the years, been transformed into bountiful farmland by drawing on a huge underground formation saturated with water. But the geological formation, called the Ogallala Aquifer, is being depleted so rapidly that some farmers are being forced to cut their production. Experts warn that the effects of a declining water supply may already be rippling through the local economy as the region begins to revert to harsher, dryland farming.

NATIONALLY IMPORTANT

Moreover, the Ogallala Aquifer's importance extends far beyond the interests of the region's 1.8 million people. Nearly 12 percent of the nation's cotton, corn, grain sorghum and wheat, valued as high as $2.8 billion in recent years, are watered by the Ogallala (prounced OH-guh-LAHL-uh). Almost half the nation's beef cattle are fattened on high-plains feedlots, which were lured to the high plains (roughly the area over the aquifer as shown on the map) by the abundant feed.

But importation plans are so costly and complicated that few expect anything but what Mr. Grubb calls "a phased drying out" of the high plains. "Nobody is saying 'if' the water runs out; people are saying 'when' the water runs out," notes Glen Kirk, the Interior Department's water-resources representative in Kansas.

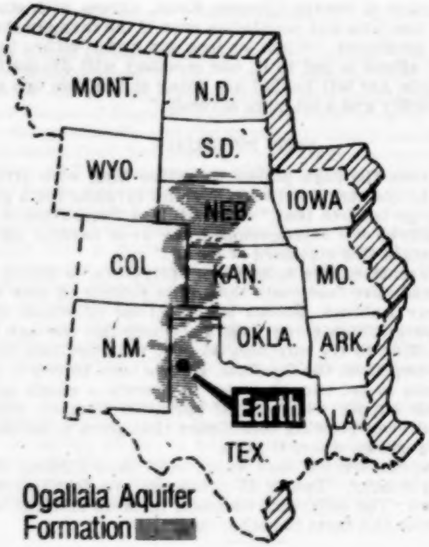
"To the consumer, a declining supply of water on the high plains would mean declining food stocks and consequently higher food prices," says Herbert Grubb, an agricultural economist and planning director for the Texas Department of Water Resources.

Water experts say Ogallala water is being "mined" as surely as any depletable mineral. In fact, some Texas farmers are allowed to reduce their federal income taxes through a depletion allowance for the water they use.

The water table has been dropping steadily because even in normal years there is far too little rain on the high plains to replenish the aquifer. Moreover, the sand-and-gravel formation apparently doesn't take on new water readily. As a result, the aquifer in some areas is being drawn down 15 to 18 times faster than nature is replacing it. So the only alternative to the certain long-term demise of most irrigation on the high plains would be a multibillion-dollar program to import water through canals and pipelines from hundreds of miles away—an idea favored by those who stress the region's importance to the entire nation.

LOSS OF PRODUCTION

"When you go to dryland farming, the economy forgoes that added production from irrigation—which can disrupt an economy geared to higher production," says Duncan Ellison, executive director of Water Inc., a Lubbock, Texas, organization that advocates importing water. When production drops, "it will affect the guy in New Jersey just as much as the farmer back here," Mr. Ellison contends.



Determining how long the water will last is complicated, too, and the answer can vary from county to county—or even from well to well on a single farm. In a few isolated areas, irrigation wells have already gone dry or lost so much efficiency that farmers have reverted to dryland farming. Other farmers measure their remaining water in terms of a few years.

In the Texas high plains, irrigated acreage is expected to drop 45 percent by the year 2000 even if conservation cuts water use 20 percent. By then, irrigation in western Kansas will have all but dried up, an Interior Department study estimates. Nebraska officials worry about water mainly in a few southwestern counties, however; they even predict that irrigation will boom in some undeveloped areas where the Ogallala formation is especially thick.

Even where water is abundant, many farmers are switching to dryland farming or to crops requiring only limited irrigation because fuel bills for pumping water are soaring as the water table sinks. This year's drought, along with the surge in fuel prices, has tightened the cost squeeze. "We'll run out of money before we run out of water," says Ronald Schilling, who grows cotton near Slaton, Texas. To cut costs, farmers are changing from high-yielding but thirsty crops such as corn to hardier ones such as grain sorgum, wheat or cotton. They thereby hope to make a profit even though gross revenues drop.

But by farming less intensively, farmers send fewer dollars multiplying through the economy. An average acre of irrigated corn brings in about $375 of revenue, while switching to irrigated wheat would cut the revenue to about $200. If the farmer reverts to dryland farming—that is, if he halts irrigation altogether—he may have to let his land lie fallow every other year to soak up natural moisture, and the acre of dryland wheat could average just $50 a year in revenue.

The switch to dryland farming also strongly affects many companies and service businesses involved in irrigation. Farmers merely reducing their intensive watering cut back their needs for fertilizer, labor, implements and maintenance. In Kansas alone, where the streets of some small towns are lined with irrigation-equipment suppliers, the state estimates that irrigation pumps into the economy $3 billion annually, including the added crop revenue.

All the related business benefits the region's companies even if weather or prices go bad on the farmers. "Before, the people on Main Street lived and died with the farmers," says Keith Farrar, a Kansas legislator who farms near Hugoton, in the state's southwestern corner. "What we've done with irrigation is to stabilize Main Street all over western Kansas."

Sam Forrer, a banker in nearby Ulysses, Kans., agrees with studies concluding that his area would lose jobs and population even if the farmers themselves switch to dryland farming profitably. "When we lose our water, either because it is gone or because we can't afford to get to it, our economy will dramatically shift," he says. "The people who are left behind are going to feel the ups and downs each season a lot more quickly and a lot more severely."

BASIC POTENTIAL?

But many think that the high plains' lucrative fling with irrigation couldn't last. "This part of the country lived with dryland farming for a good many years and we may have to go back to that," says William Turrentine, a farmer in Garden City, Kans. "Maybe we overdeveloped the area beyond its real potential. Maybe we can't maintain this standard of living."

However, Mr. Turrentine, like most other irrigators, is trying to prolong the life of the aquifer and save fuel costs through a variety of new water-conservation techniques. Near Lubbock, James Mitchell, one of whose friends says his cotton farm has "more things going than anywhere but the agricultural experiment station," is willing to try anything to deal with declines in the amount of water that he can pump from the Ogallala. He has been forced to pool the meager production of 12 wells to get enough water to operate a single sprinkler system. And he stretches his supply with special sprinkler nozzles, sophisticated soil-moisture gauges and even plowing techniques that form a series of small dams to trap water in the furrows where it falls.

"We've learned we can stretch that water out," says Clifford Hilbers, another cotton farmer living nearby. "Ten or 15 years ago, we didn't dream we could do what we're doing now. The only way we could be more efficient with our land is to turn the ground over and farm the other side."

NEW ACREAGE

While some irrigators are trying to conserve what water they have, many others are just as intent on opening new acreage to irrigation before the Ogallala goes dry. To curb each farmer's urge to drain his portion of the prairie, regulatory agencies are controlling the amount of water that each can pump. But this policy forces regulators to make decisions that alienate those who want to expand irrigation, and yet it fails to solve the overall problem.

"It's a shame we didn't have water management back in the year 1950," says Gerald Wishman, a Scott City, Kans., farmer who sits on a local ground-water management board formed just a few years ago. "We could have put controls on, and, instead of lasting 40 years, the Ogallala would have lasted 80."

Even back in the 1950s, however, some Kansas farmers did start worrying about water supplies. Despite early warnings, though, irrigation exploded unchecked in the mid-1960s when development of new sprinkler systems made it possible to turn rolling sand hills previously suitable only for sagebrush and yucca plants into prolific cornfields. Much of the new farmland could never produce drylands crops. "If you go along and cut a farmer's water off," Mr. Wishman says, "you're telling him to go broke."

LAND VALUES INVOLVED

Tough decisions about water use ultimately affect land values, because irrigated farmland can fetch up to twice the price of land where irrigation is either impossible or forbidden. "The lines are drawn between the haves and the have-nots," says Mike Dealy, a hydrologist with the ground-water management district in Garden City, Kans.

Even with strict regulations and conservation efforts, however, "we're just stretching out time until the end result," Mr. Dealy says. "When the first well went down, that's when the water started running out."

The search for an exit from what seems a dead-end alley is stirring dreams of bringing in water from as far away as Kansas or even Canada. Various importation plans will be considered in a five-year study by the U.S. Economic Development Administration. Supporters of importation hope that the study, due to be completed in 1982, will find the Ogallala area so vital economically that federal help is justified.

HUGE COSTS

Federal help would probably be needed, experts say, because the region's economy would be hard-pressed to pay for the capital costs and the maintenance and operation of the system. Only sketchy cost estimates have been made. In 1973, the Army Corps of Engineers estimated that bringing water from the lower Mississippi to the panhandle and distributing it would cost $20 billion. A more recent study concludes that just moving water from one part of Kansas to another would cost about $2.3 billion, require $300 million a year to operate by the year 2020—and still leave water shortages at both ends of the project after 12 years.

Moreover, moving such a vital resource as water from one area to another raises a thicket of legal and political questions, particularly as high-plains water shortages collide with a push by other arid Western states to find water to develop energy resources. "The area's water problems may be horrendous, but the political problems are stupendous," says John W. Weeks, an Interior Department geologist participating in the high-plains study.

Consequently, most people who depend on Ogallala water aren't counting on a rescue. "Importing water is science fiction as far as I'm concerned," says Mr. Turrentine of Garden City. "This area is just going to have to learn to live with less water."

Yet those who have resigned themselves to an end to plentiful irrigation water don't think the high plains will go back to the buffalo.

"We might be better off to let nature take its course and adapt to whatever nature brings," says Mr. Forrer, the Ulysses banker. "Leave us to our own devices out here. Some of us may go by the wayside—one of them may be me—but the ones who will be left will be strong and productive."

[The following statements were submitted by Mr. Blunk. See p. 134 for the oral statement of Mr. Blunk.]

CASS COUNTY SOIL CONSERVATION DISTRICT,
Atlantic, Iowa, August 8, 1980.

Senator ROGER W. JEPSEN,
U.S. Senate, Committee on Agriculture, Nutrition, and Forestry,
Washington, D.C.

DEAR SENATOR JEPSEN: We, as Commissioners of the Cass County Soil Conservation District, join with you in support of all efforts to preserve our soil. We are involved at the very foundation level of the effort to preserve and protect our soil, and feel that we can point to some areas where the effort can be strengthened.

We appreciate your effort to come and take the time to hear opinions on this important subject from the implementation level, and to search for ideas to improve and accelerate the methods of bringing soil erosion under control. We do regret that a hearing was not scheduled in Western Iowa, especially since the devastating storms, in the month of June, have caused many people to be aware of the need for more conservation on the land.

We would like to submit some suggestions, briefly, that would result in more conservation practices on the land:

1. We really do not need a lot of programs to get the job done. Every Conservation District has available to it programs for; soil surveys, conservation planning and application (Public Law 46), ACP, R.C. & D., and small watersheds (Public Law 566). Others could be added to the list, especially if we look nationwide. These programs are adequate, but they lack sufficient emphasis and importance.
2. We need additional funding in the existing programs. Inflation alone reduces the effectiveness of our efforts when the same dollars do not reach as far because of increased costs. If we are sincere about accelerating the conservation effort we must keep pace with inflation plus extra dollars to accomplish more. Unfortunately, the output of permanent practices on the land is in direct proportion to the number of cost-share dollars. This is especially true under existing rural conditions where the "cost-price squeeze" is very apparent.

3. Landowners are truly interested in saving their soil. On July 31, we allocated the State cost-share funds approved by the Iowa Legislature for the 1980–81 fiscal year. We needed $132,000.00 to meet the demand for terrace construction. We had only $80,000.00 available. So you can see, that this year alone we are $52,000.00 short of the cost-share supply meeting the demand for terraces.

4. We cannot withstand a policy of "fencerow to fencerow farming" unless we support that philosophy with "all-out soil conservation". The soil we are losing is worth more than the crop we are producing. Possibly a tariff on exported grain could be imposed and the revenue used for conservation of the land that produced the grain as a way to generate additional money for soil conservation.

5. We need to utilize the existing technical staff to full advantage throughout the months of the year when construction is possible. This could be accomplished if there were a strong set-aside program tied to erosion control releasing eroding acres for summer conservation construction. However, a set-aside program of this type will not be effective unless there is also sufficient cost-share funds to support it.

6. Finally, we would suggest an effort toward urban awareness of the erosion problem. Since metropolitan areas compose the majority of voters and taxpayers who must support any conservation program, they must be totally aware of where the food supply comes from and the necessity of preventing soil erosion. The urban population is probably well educated on the dangers of air and water pollution, but it is doubtful if they really understand the extent of soil erosion and what it will mean in future years and to future generations.

We thank you for this opportunity to comment, and we hope our opinions will be of value. We also wish you endless success in your efforts to accelerate the soil conservation effort.

Respectfully,

TOM MAGILL,
Chairman.

STATEMENT OF GEORGE ANNAN, CHAIRMAN, GOLDEN HILLS RC&D EXECUTIVE BOARD, CLARINDA, IOWA

The Golden Hills Resource Conservation and Development Executive Board requests your follow-up and support in obtaining authorization for the Golden Hills RC&D Project in Southwest Iowa. Counties included are: Harrison, Shelby, Pottawattamie, Cass, Mills, Montgomery, Fremont and Page. Our group has been organized over four years and we were disappointed when new authorizations were announced last February that the Golden Hills Project was not one of them.

We have heard that 6 new projects will be authorized next fiscal year, or after October 1, 1980. Can you tell us if this is correct?

The Golden Hills Executive Board has developed a nucleus of cooperation from numerous groups such as the Soil Conservation Service, the Extension Service, planning agencies, soil conservation districts, local units of government and local businesses to name a few. While we have effectively carried out projects like the conservation tillage plots and an erosion-on-roads inventory, they can only be done to a limited extent and there are many other activities we have identified we'd like to proceed with. We continue to provide information to farmers and local government officials as best we can. If we were authorized for operations as an RC&D, we could be more effective and make greater accomplishments.

It is our understanding that the Golden Hills Project has been considered active and one of the prime candidates for authorization in the past. We ask you to follow-up on its current status and let us know when new projects will be authorized and if there is anything we should provide you to assist us in becoming an authorized project.

The Area has been very active in applying erosion control programs over the years ever since any type of assistance has been available. The amount of conservation visible on the landscape is proof of this. We have consistently had public participation requesting assistance beyond that which can be met with technical assistance or cost-share programs currently available in this region. We have reviewed House Bill H.R. 6054 and Senate Bill S. 1942. The Golden Hills region is in a critical erosion area, and we would support this type of assistance and feel it would help get more erosion control.

Soil losses are high due to wind and water erosion in this region. This seriously affects the economic and environmental conditions of our region as the pressure to continue to produce food and fiber from the family farm continues. As the erosion in the area continues, the stability of the family farm and potential for its production continue to decline. We do need increased public involvement for developing the natural and human resources in this area.

Please let us know the status of authorization for the Golden Hills RC&D and what you think will happen to House Bill H.R. 6664 and Senate Bill S. 1942, as we feel they too can be of great assistance to us in this region.

Statement of George Groenewold, Chairman, Clay County Soil Conservation District, Spencer, Iowa

The Clay County Soil Conservation District Commissioners would like to go on record as submitting the following statement.

We feel there is a definite need for additional cost-share funds for permanent soil conservation practices. Approximately 94 percent of Clay County is used for agricultural purposes and approximately 78 percent of the countys' soils are classified as prime farmland. With these figures in mind, we feel it quite important to maintain our prime agricultural land.

There are several programs that provide governmental assistance for soil conservation. We are thankful for these programs but feel they are definitely inadequate on the amount of money that is truly needed.

An additional $15,000,000 of conservation practices is needed within the next 20-years to adequately treat and maintain our soil base.

Along with the additional cost-share money that needs to be spent in maintaining the soil, there is a definite need for more personnel to assist the landusers.

We cannot continue to apply the needed practices if our personnel and budget is being cut.

The District is in favor of the strong commitments on protecting the use of prime agricultural land for agricultural purposes. We feel this is a definite step in the right direction.

Statement of Larry Beeler, Peru, Iowa

Maintaining a balanced program that farmers understand and respect is important. Continue to use the Federal-State-Local partnership for dealing with Soil and Water Conservation.

Federal employee freezes have affected the personnel of the SCS at a time when, according to many surveys and polls, people across the nation are concerned about soil erosion. Hopefully, this loss of SCS personnel will be reversed. Passing the obligation of financing these technical people from the federal level to the state level, and then the state level in turn suggests that counties use local tax money to hire technical personnel at the local level. This passes the tax burden to pay for the needed technical personnel from the "little old lady in Boston who is concerned about soil conservation" to the farmer in Podunk as he pays his county taxes. I wonder then if there truly is support at the federal level for conservation concerns? A fully funded, fully staffed agency balances the concern with the burden.

Renewing this strong partnership of the Federal-State-Local programs effectively is necessary if society is to benefit and help finance soil conservation programs in a way that is fair to both the lady in Boston and the farmer in Podunk.

The second comment I have concerns financing the soil conservation practices needed to maintain the soil resource base.

If the Harris Poll is correct in that people across the nation are concerned about saving soil for future generations, why wouldn't people welcome the opportunity to check off part of their federal tax obligation as they can for political elections? Some will say that soil conservation is "special interest" and should not be included in a federal tax check off. I submit that as long as we mine our soil to feed the world, soon people will realize that if our soil base is destroyed so will we all be destroyed. Without a protected soil base, other objectives are secondary.

Thank you for this opportunity to comment. If there are any questions as to how these suggestions can be developed I would gladly offer more imput.

THE IZAAK WALTON LEAGUE
OF AMERICA, INC.
Des Moines, Iowa, August 13, 1980.

Re soil conservation.

Hon. ROGER JEPSEN,
U.S. Senate,
Washington, D.C.

DEAR SENATOR JEPSEN: I salute you in your conscientious endeavor to become involved in Soil Conservation.

The area of Soil Conservation is probably of more importance to the midwestern states than anywhere else in the entire world. Iowa is of course endowed with more prime agricultural land than anyone.

The Izaak Walton League of America, Inc.; has been concerned with Soil Conservation for many years. Several years ago, we formed a Committee under the leadership of Leo Windish from Illinois. This Soil Conservation Committee was charged with assembling members from the entire United States whose expertise and credibility would be second to none. The Committee was formed and as you can see, the talent on the Committee consists of some of the greatest Soil Conservationists in the United States, many from Iowa.

I have enclosed for your use, our 1980 report, "A Nation At The Crossroads", which is a summary of our previous gatherings. The previous years reports will be forwarded to your office also.

Please consider our report for your record and also feel free to contact me, Leo Windish or our National Office at anytime for any assistance.

Sincerely,

LEE DALLAGER,
President.

"... A Nation at the CROSSROADS"

* * *

The Soil Conservation Committee of the Izaak Walton League of America, Inc. is pleased to present our annual report to the delegates in attendance, at the National Convention, held at the Radisson-Chicago, July 16-20, 1980.

Your chairman accepted an invitation by the Under Secretary of Agriculture for Conservation, Dr. R. Rupert Cutler to attend the R.C.A. National Public Briefing, which was held at the Department of Agriculture, Office of the Secretary, Washington D.C. on Friday, September 14, 1979, at 1:30 p.m. in room 218A.

Dr. Rupert Cutler, presided over the meeting. At the outset, he handed out the following agenda for the meeting.

1. Introductions — Dr. Rupert Cutler
2. Status of RCA activity — Glen Loomis
3. Summary of Appraisal Report — Jerry Lee
4. Setting of Objective Levels — Dr. Gary Margheim
5. Potential Alternative Strategies — Warren Post

The RCA legislation (The Soil and Water Cunservation Act of 1977 Public Law 95-192) calls for the USDA to make an appraisal of the non-federal soil and water resources and develop a program for soil and water conservation in the U.S. The appraisal and program are to be sent to Congress in 1980. There are 34 existing soil and water programs in USDA being looked at in this effort.

Guiding the RCA program is an interagency coordinating committee representing eight USDA agencies — Agricultural Stabilization and Conservation Service (ASCS); Economics, Statistics and Co-Operative Service (ESCS); Farmers Home Administration (FmHA); Forest Service (FS); Rural Electrification Administration (REA); Science and Education (SEA); Soil Conservation Service (SCS); Office of the Budget (OMB) and the Council on Environmental Quality (CEQ).

Coordinating Committee meetings were open to the Public. David Unger, Deputy Assistant Secretary for Natural Resources and Environment, chairs the committee.

SOILS

The total surface area of the United States is approximately 2.36 billion acres; two thirds (1.5 billion acres) of which is owned by private citizens, business and industry, and various units of government (non-federal). The soils encompassing this area have a wide range of properties. They vary from continually wet to continually dry; from clay to sandy; from acid to alkaline; and from shallow to deep. They also differ in slope, porosity, organic content, temperature, and their capacity to supply nutrients. More than 12,000 different soils have been recognized, each of which covers an area from a few thousand acres up to a few million acres.

Of the 1.5 billion acres of private land in the U.S., 41 percent (614 million acres) are comprised of soils suitable for cultivated crops and other uses such as pastureland, woodland and urban land. Thirteen percent (189 million acres) are considered to be only marginal for cultivation because of unavoidable soil properties. Soils that are generally not suitable for cultivated crops, but can be used for pasture, range, woodland, wildlife habitat, or recreation make up (599 million acres).

The Corn Belt, the Lake States, the Northern Plains and the Delta States have the largest percentage of high quality soils for agricultural purposes.

Table I

Region	Percent suitable for agricultural cultivation
Corn Belt	76 percent
Lake States	56 percent
Northern Plains States	59 percent
Delta States	55 percent

About half of the soils in the United States have a high, natural fertility. Essentially this means that these soils may be fertile enough for growing crops successfully without applying fertilizers, although yields would certainly be below their yield potential.

The slope of the land influences how soils are used and managed. Energy costs are smaller on level or nearly level land. The runoff is also slower, thus the erosion hazard is considerably less. These areas are also the easiest to irrigate. Forty-two percent of non-federal land in the U.S. is level to gently sloping with 51 percent of this total existing in cultivated cropland. Twenty-seven percent of non-federal is sloping to moderately steep; 31 percent of the land in this category is steep to very steep and three percent of this total is cropped.

Wet soils have been found to be among the most productive in the world. Flood-prone areas are defined as land adjoining rivers, streams, lakes or other areas where there is at least one percent chance of flooding in any given year. More than 175 million acres on non-federal land in the U.S. is subject to periodic flooding. There are a number of major problems closely associated with existing cropland in this country. Two hundred and seven million acres are particularly susceptible to erosion and 40 million are affected by shallowness or stoniness. A total of 105 million acres have an excess amount of water and 27 percent have climatic limitations. Cropland with erosion considered to be the dominant limiting factor, averaged 6.7 tons of soil loss per acre in 1977. Forty-one percent of U.S. cropland was responsible for 50 percent of all cropland erosion. Wind erosion of cropland is a significant problem in the Great Plains States. It is most evident and damaging in the states of Colorado, New Mexico and Texas. Colorado has an average annual wind erosion rate of 8.9 tons per acre. New Mexico averages 11.5 tons per acre and Texas has a 14.9 ton per acre a year loss.

Pastureland

The total acreage of pasture, native pasture and rangeland in the U.S. and its Caribbean territories increased from 102 million acres in 1967 to 116 million in 1977. Of the total pasture land in 1977, 4.8 million acres, or 4.1 percent was irrigated. Soil erosion is a significant problem associated with pastureland in the U.S.; 20 million acres are to some degree, affected by erosion. Twenty-three million acres have an excess amount of water and 11.4 million acres have inherent limitations within the rooting zone.

Rangeland

Of the 414 million acres of rangeland in the U.S. and the Caribbean area in 1977 over 99 percent lies in 17 western states. Although this is an increase of 34 million acres between 1967 and 1977, most of this is an increase attributed to definitional change between 1967 and 1977 inventories. Only 12 percent of the U.S. rangeland is in excellent condition and 28 percent is in good condition. The remaining 60 percent is either in fair (42 percent) or poor (18 percent) condition. Thirty-seven percent of all rangeland, has soil losses in excess of two tons per acre. Sheet and rill erosion of more than two tons per acre occurs on 69 percent of all rangeland.

Currently brush occupies 277.5 million acres of U.S. rangeland. This is a 0.4 percent decrease in acreage since 1963. There are also indications that density of brush stands is decreasing.

Forestland

The forest industry is at present producing at 68 percent of its potential. In 1977 there was 377 million acres of non-federal forestland inventoried in the U.S. compared to 453 million in 1958 and 463 million in 1967. Eighty-three percent of non-federal forests are located in the Eastern half of the country. **Erosion is much more prevalent in grazed forest.** Sheet and rill erosion on grazed forest land occurred at the rate of two to five tons per acre in 11 states, five to 10 in 10 states, and more than 10 tons in six states. In comparison, on all ungrazed forest lands erosion occurred at the rate of less than one ton per acre in 36 states, one to two tons in 11 states and two to five tons in two states.

Mined Land

Land disturbed by surface mining in the U.S. totaled 5.7 million acres as of July 1, 1977. The average rate of land disturbed is about 200,000 acres per year. Approximately 1.9 million acres have been reclaimed either through natural seeding or through the efforts of landowners.

Prime Farmland

Most of the 346 million acres of prime farmland in the country are located in the Corn Belt, followed by the Northern Plains, the Lake States and the Southern Plains. From 1967 to 1975, about eight million acres of prime farmland were lost to other uses. Of this eight million acre loss, 6.5 million was a result of urban development and 1.5 was converted to water areas. Approximately 230 million acres of prime farmland — more than half of the total U.S. cropland — was farmed in 1977. Of the remainder, 42 million acres are forestland, 40 million are native pasture and pastureland, 23 million are rangeland and 11 million are farmsteads, farm roads, feedlots and the like.

The states of Arizona, Colorado, New Mexico, North Dakota and Utah all are presently using over 90 percent of their prime agricultural lands for crop production. In contrast, Alabama, Connecticut, Florida, Georgia, Maine, Massachusetts, New Jersey, North Carolina, Tennessee, Texas, Vermont, Virginia and Wyoming are utilizing less than 50 percent of their prime farmland for crops.

Potential Cropland

There are 136 million acres of land in the U.S. presently not used for growing crops that have a high potential for use as farm land. Most of the acreage is in pasture or range. Forty million acres have a high potential for use as crop land. Just over half would be prime farmland and most would require no special treatment to be converted. Nearly 95 million acres have medium potential for use as cropland, of which about one third is prime farm land. Most of this land has one or more soil limitations, and would require some sort of treatment.

Water Resources

An average of about 30 inches (4,200 billion gallons a day) of water annually precipitates to the surface of the contigious U.S. Approximately 21 inches of this amount returns to the atmosphere by transpiration. Of the remining nine inches, about three inches pass beyond the soil moisture zone and recharge ground water supplies. Nearly 99 million acres of the total surface area of the U.S. are large water areas of more than 40 acres in size and streams of more than one-eighth mile wide. There are about 49,000 large and two million small reservoirs in the country. Together they store about 197 billion gallons of water.

Water Quality

Water quality is dependent on the use required. The quality of water may be affected by infectous agents such as bacteria, fungi and viruses; nutrients such as phosphorous and nitrogen; dissolved and suspended solids and pesticides.

Salinity, which describes the concentration of dissolved minerals or solids in water, is an important concern in this country's western streams and rivers. Salinity is significant in about 20 percent of the soils in the western states.

According to the National Residual Discharge inventory, two-thirds of the 2.1 trillion pounds per year of the total suspended residuals discharged into receiving waters were received from non-point sources.

Table 3

Percent of Sediment yield from Different sources

Sediment Source	**Contribution (%)**
Streambank	26%
Cropland	40%
Pasture and Rangeland	12%
Forest Land	7%
Roadside	3%
Urban	4%
Mining	1%
Other	7%
	Total 100%

There has been a decline in the levels of some pesticides in water. The measured levels of five suspended or cancelled pesticides from 1971 to 1976 have generally shown that the situation has improved in comparison to 1966 to 1970 levels. In addition, the intake of pesticides in an average American's diet has dropped substantially from 1966 to 1976.

Water Uses

About two-thirds of the combined withdrawal of fresh (399 bgd's) and saline (60 bgd's) water in the U.S. and its Caribbean area came from fresh water withdrawn from the ground and surface water sources. About 232 bgd's were returned to surface water and 107 bgd's were lost through evaporation. One hundred fifty-nine bgd's of the 339 were used for irrigation with 86 bgd's being consumed.

Wildlife and Fish Habitat

A number of agricultural practices can have a significant impact on wildlife and fish habitat. The decline of crop acreage, advanced farming techniques, forestry and range practices, and wet land management all affect the quality of wildlife habitat. Fish habitat is affected by agricultural practices relating to wetlands, lakes and reservoirs, river flood plains, farm ponds and water quality.

Organic Residues

A total of 800 million dry tons of organic residues are produced annually. These include animal and poultry wastes which are 75% utilized, crop residues (75%), and sewerage sludges (of which only 25% is used). Also food processing and organic industrial residues, municipal refuse and logging and wood manufacturing debris could all better be utilized as fertilizers.

The maximum added value that could result from utilization of organic residues is suggested to be around 840 million dollars annually.

Windbreaks

Windbreaks presently occupy a total of 1,405,000 acres. Although the number of windbreaks is on the increase, the acres of field windbreaks is slightly decreasing. In addition, the length of the field windbreaks is increasing.

In conclusion, "it has been said that the future is not some place we are going, but one that we are creating." Indeed, the objective levels established through the RCA process will provide the basis for creation of USDA's future soil and water conservation program. These levels establish targets of accomplishment for each of the seven areas of concern called potential problem (PPA's) These areas, identified through public participation early in the RCA process include:

1. Soil Resource — Quantity and Quality
2. Water Quality
3. Water Supply and Conservation
4. Fish and Wildlife Habitat
5. Upstream flood damage
6. Energy Conservation and Production
7. Related natural resources

National Agricultural Lands Study: A Workshop

Your chairman attended a workshop, the topic of which was "The Impact of Agricultural Land Losses on the Nation's Present and Future Ability to Produce Food and Fibre." The workshop was held at the Hoffman House in Dubuque, Iowa for the mid-western area. In all, 17 such workshops were held in 17 states. The dates the conference was held were Nov. 7-9, 1979.

The workshops were sponsored by the federal interagency National Agricultural Lands Study, co-chaired by Secretary of Agriculture, Bob Bergland, and Gus Speth, Chairman of the President's Council on Environmental quality.

"Bergland said we are seeking information from individual citizens, business, industry and public interest groups as well as state and local governments on the availability of agricultural lands." Bergland emphasized, "We are especially interested in the effects of agricultural land losses on present and future food supplies.

Speth said the study group wants opinions from workshop participants on four main points:

- problems stemming from increased competition for, or actual conversion of agricultural lands;
- values threatened by current trends in the availability of agricultural lands;

- costs and benefits of measures taken to prevent or retard agricultural land conversion; and
- ways to avoid or mitigate the most important problems raised.

During the workshop sessions, inquiries were made into the most rapidly growing local demands for agricultural lands; the amount and quality of lands converted to non-agricultural use; the proportion of the population effected; the irreversibility and possible escalation of these land losses, and the adverse consequences for present and future generations.

Speth hailed the workshops as a timely and necessary meeting of the minds among agriculturists, urban citizens, environmentalists and civic and political leaders.

"I am encouraged by the growing commitment of farmers, ranchers and environmentalists to the good stewardship of the Nation's agricultural lands," he said. "Three million acres of our farm lands are converted to non-agricultural use every year. In terms vividly understandable to any farmer or rancher, this is the equivalent of 320 acres, or a half section of farm land **lost every hour**. Obviously, if the farm land loss continues at this rate, there is the possibility of long term damage to the country's agricultural capacity.

Speth pointed out that 48 states and many local governments have adopted agricultural land retention programs of one form or another. "We are asking citizens to share their experiences and opinions about factors that have contributed to the success on failure of these programs," he said. "Citizen response to our workshop's questions and research by members of the National Agricultural Lands Committee Study staff will be included in a final NALS report to the president in January 1981." The NALS research staff includes soil scientists, economists, sociologists, foresters, range conservationists, fish and wildlife biologists, agronomist and land use planners.

Other agencies participating in the National Agricultural Lands Study are: Department of Commerce, Department of Defense, Department of Energy, Department of Housing and Urban Development, Department of Interior, Department of Transportation, Department of the Treasury, Environmentalist Protection Agency and the Water Resources Council.

• • •

This was a most interesting and very well attended conference, one in which some excellent data was given and an opportunity to meet many people who share our concern with the loss of prime farm land.

Soil Conservation Committee Nominates James Risser, Chief of the Washington Bureau, DesMoines Register and Tribune for a Special Award.

The name of James Risser was placed in nomination for a special award by the Izaak Walton League of America, Inc. The awards committee has notified the Soil Conservation Committee that Mr. Risser will be presented with a special award at the awards luncheon on Thursday, July 17.

An excellent resume and biographical background was written by Mr. H. Wayne Pritchard, Consultant, to the Soil Conservation Committee IWLA, excerpts which we wish to make a part of our report.

"One of the nation's leading Washington editors, Risser received the Pulitzer prize in 1979 for his seven part series about the environmental damage that farming is doing to the nation's land, air and water. Risser spent more than six months preparing and researching the series that has brought him recognition in addition to journalism's most prestigious award. Shortly after the series appeared late in 1978, he received the Thomas Stokes award given annually for the best articles on conservation of the environment.

The nation's farm editors named him **Farm Editor of the Year** for the series, a recognition that normally goes to one of their own members. In August of 1979 the Soil Conservation Society of America named him the recipient of the Heath Cooper Rigdon Conservation Writer Award for 1979.

The title of the seven articles described the approach he used in his writing. The series, titled **Environmental Crisis Down on the Farm** were individually titled as follows:

September 10, 1978 —	**Pollution, Soil Losses Cause Alarm** **Economics and Politics Thwart Clean-up Attempts.**
September 11, 1978 —	**Iowa's Soil Eroding at Costly Rate** **Two-Crop Influence Adds to Problem**
September 12, 1978 —	**Conservation Schizophrenia** **Frustrates Soil Experts**
September 13, 1978 —	**Farm Chemicals Dilemma: High** **Yield For Low Water Quality**
September 14, 1978 —	**Intensive Irrigation in U.S.** **Threatens Water Supplies**
September 15, 1978 —	**Agricultural Pollution Tangled** **In Political Snarls**
September 16, 1978 —	**Rural Water Clean-up** **Is Dead for the Year**

He joined the staff of the DesMoines Register and Tribune in 1964 and specialized in Iowa Government News. He joined the paper's Washington Bureau in 1969 and became chief of the Bureau in 1976. The Pulitzer was the second for Risser, his 1975 series disclosing widespread corruption in the inspection, weighing and grading of grain for shipment overseas won him his first award in 1976.

Acknowledgements from Soil Conservation Committee Members, Regional Correspondents and Others

As a part of the Soil Conservation Committee's report, it is my pleasure to include in our report some excerpts from letters that have been received. On April 15, 1980, William Fleischmen, our Soil Conservation member who lives at 610 Flora Ave., Prescott, Arizona, wrote to tell us about his section of the U.S. In part, he says as follows: "We had another good winter for moisture, the third now in a row, so the ranchers and farmers are happy. During the past year, I feel that we have lost ground, so far as efforts to conserve soil are concerned. It seems we are too willing to promote economic growth at the expense of our Natural resources.

In Arizona, we continued to overdraft our supply of underground water and to take large amounts of our best farm and range lands out of production for real estate development. There doesn't seem to be any concern by any of our so-called leaders for future generations. No one seems to want to look beyond the next dollar.

"People are moving to Arizona in vast numbers and the state is doing all it can to make sure they keep coming. This in spite of the fact that there is insufficient water to support this growth.

"As problems develop from this unplanted growth, they are solved by obtaining vast sums of money from the Federal government. All of the people in the United States are then required to pay for the solution to local problems. Problems that never should have developed had proper planning been done in the first place. The floods the past three years in the Phoenix area is a good example. They were really not floods in the sense of floods in the middle west. The damage resulted from poor operation of the reservoirs above the city and zoning regulations that permitted development in historic river channels. Rivers have a right to flow, and in this country they do flow even though there may be houses and structures in the channel.

"You folks in Illinois help pay for these situations since most of the repair and cleanup is financial from Federal Flood Relief Funds. The last figures I saw, indicated that of every dollar residents of Arizona paid in Federal taxes, $1.23 was returned to Arizona by Federal programs. In Illinois 77 cents was returned for each dollar sent to Washington from that state."

Bill Fleischmen,
Member, Soil Conservation Committee, IWLA

It is indeed a real pleasure to submit and include in our report the activities of Mr. Ed Crocker, a member of the Soil Conservation Committee of the IWLA.

Ed Crocker is a retired Soil Conservationist who works untiringly at the job of protecting one of our greatest resources, the SOIL. I am including his excellent report in its entirety. Ed is to be highly commended for his tremendous effort.

IZAAK WALTON LEAGUE OF AMERICA, INC.
1800 North Kent St., Suite 806
Arlington, Virginia 22209

SOIL CONSERVATION COMMITTEE

June 28, 1980

To: Leo Windish, chairman, 101 Exchange St., Galva, Illinois 61434
From: Ed Crocker, member, 720 E. First St., Storm Lake, Iowa 50588
Subject: Fiscal Year Statement: "A Nation at the Crossroads"
(Iowa at the Crossroads)

I. Involvement (footnote 1) — RCA (Soil and Water Resources Act 1977)

A. Buena Vista County Iowa Public Hearings — statements presented.

B-1. Member Iowa RCA Task Force #2 — Land Use: Prime Agricultural Land; Flooding Review and written inputs for final report.

B-2. Review of final Iowa report.

C-1. National RCA Appraisals I & II; Program Report; and 1980 Review Draft Summary — all studied

C-2. Prepared and mailed by 3/28/80 comments RCA to the USDA Response Analysis Center. (copy available upon request.)

D-1. Iowa 2000 — Participated in public hearings in Buena Vista County Iowa and gave oral and written statements as input. Objectives by 1985 each Iowa Farm has a farm plan folder offering alternatives to reduce soil erosion to "permissible limits" (footnote 2), and contribute to reducing non-point pollution for swimable-fishable waters in the state - plans applied to the farms by 1990.

D-2. Iowa Division IWLA resolution unanimously adopted at the 57th anniversary meeting of the Division in Des Moines June 7, 1980. To also be considered by the National IWLA's 1980 Resolutions committee in Chicago July 16-19, 1980.
"We request the USDA SEA and the Agricultural Experiment Stations and Land Grant Colleges and Universities to expand research and development of plants known to protect soil from erosion by wind and water, for economic benefits equal to corn and soybeans for the producer. This is proposed in defense of our soil."

II. The Iowa Crossroads —
Soil Scientists report that in the past 100 years the top half of Iowa's original living topsoil has been lost forever to Iowa by soil erosion. Soil Scientists have also estimated that, at the current rate of soil erosion in the state, the bottom half will be lost forever to Iowa in another 60 years.

III. Other —

A. Concurrently with Iowa 2000 and RCA, meetings and hearings have been held to implement the 1972 Public Law 92-500 — Section 208. This is being done through the state's six major watershed Conservation Districts. The Iowa-Cedar Conservancy District is the furthest advanced in the development of a plan of action.

B. Iowa legislature in 1980 appropriated $6 million for use by the Iowa Department of Soil Conservation through the 100 SCD's in offering cost sharing assistance to land owners and operators for installing permanent conservation practices which reduce erosion and improve water quality.

C. No-till planting, and conservation tillage operations which leave 2000 lbs. or more residue from the previous year's crop per acre for mulch on the surface are being encouraged. These are inexpensive and effective practices to substantially reduce soil erosion by water and wind.

D. Conservation education and available technical and financial assistance with volunteer participation by land stewards continues to be the thrust in Iowa to accomplish soil erosion control and improved water quality. Iowa laws "on the books" to mandate and enforce measures necessary are there when soil erosion and polluted water harm a neighbor — usually this is down stream from the offender.

IV. Land Husbandry —
"I conceive that land belongs to a vast family — of which many are dead, few are living and countless numbers are unborn." — Nigerian Chieftan.

(Footnote 1) — Personal involvement as 1. a citizen; 2. a member of the United Counties Chapter IWLA; 3. IWLA President appointed member of the National IWLA Soil Conservation Committee, Leo Windish, chairman

(Footnote 2) — Permissible soil loss definition — based on the loss that can be effectively balanced to sustain the topsoil through plant residues, animal manure, and supplemental fertilization applied in accordance with recommendation which result from competent soil sampling and lab. tests. Soil loss limits are established based on soil types. Soil scientists have determined, for example, that the permissible soil loss for a dark, well drained prairie soil, medium textured is five tons per acre per year. One acre of soil one foot deep weighs 2000 tons or 167 tons per inch.

Prepared by Edwin G. Crocker

Wes Libbey, one of the Members of the Soil Conservation Committee was honored with an Award from the American Motors, for his outstanding long-time record of Conservation

This year, three outstanding Conservationists, and long-time League leaders have been honored by receiving American Motors Awards. They were **Wes Libbey,** Grand Rapids, Minnesota; **Vernon Hagelin,** East Moline, Illinois, and **Tom Dustin,** of Indiana. Each is a most worthy recipient of this coveted award. Our congratulations to each of them.

It was my pleasure to be in attendance at the annual Convention of the Minnesota State Convention of the IWLA, and to witness the presentation to Wes. After his acceptance, he made this excellent statement which I thought so appropriate, that I am honored and pleased to have his permission to use a portion in our report to our members.

I quote from his address as follows:

"I'm not sure a fellow who grew up in the forest of northern Minnesota is qualified to talk about soil conservation, although one grandfather was a farmer and the other grew up on a farm. And my resolution to add 'soil' to the IWLA motto was adopted by the Grand Rapids Chapter, the Minnesota Division and then by National. My approach has been to identify the problem, find the cause and then a solution. Soil Conservation problems are not hard to find. The United States is bleeding to death. I would like to emphasize that the 'United States is bleeding to death.' We have lost half of our top soil. A Soil Scientist at Iowa State University has calculated that at the present rate of soil loss, there will not be a grain of topsoil left in the State of Iowa by 2080 — our tall corn state. An acceptable rate of soil loss of topsoil is five tons per acre. Iowa is losing 10 tons per acre, as is Minnesota, and many other midwestern states. It seems to me that agriculture is headed down a one-way street. Something seems wrong when farmers put in several units of energy for one unit of food in return. Large scale mechanized farming of row crops is one of the major causes of erosion.

"As an environmentalist, I see two problems with high production agriculture. One is monoculture, or lack of diversity. In nature, endless diversity is the rule. We can wonder when man uses brute force to turn wetlands, fence rows, groves, grasslands into endless black soil devoid of wildlife. The first sportsmen's clubs in the United States were formed on the east coast when trout streams became fishless, because of the effects of land use in the watersheds. Wildlife is an early warning system. Man can be concerned about an environment in which wildlife cannot survive; man also is a part of the environment. It seems that drastic changes in agricultural practices are unavoidable.

"We must recognize that there are levels of production beyond which the soil cannot be pushed indefinitely. There are limits to all resources and man needs to adjust to them — nature's laws cannot be violated, endlessly.

"At the risk of being clobbered by a shopper, fresh from the supermarket, I suggest that food prices are too low. United States consumers spend about 17 percent of their income on food, much and far below that in other countries. This saving, is often at the expense of the SOIL. Farmers must receive enough for their products to permit recovery of both production costs and soil conserving costs. We need a soil conserving program which can be funded through the sale of farm products as a cost of production. The easy days are gone. It is time to pay the piper. Soil Conservation can no longer be left to voluntary cooperation-participation in soil conserving practices by the farmer must be made possible through public or market funding. We cannot mine the soil at the expense of future generations, in order to have artificially low prices on food for ourselves.

"We probably face big changes in irrigation. Agriculture consumes about 83 percent of our water resources. It is the most consumptive use. It damages soil quality by depositing salts which accumulate. Watertables in Arizona are dropping seven to 10 feet per year. Eighty percent of its production is irrigated. Stewardship requires a rate of use of ground water no greater than the rate of recharge. Research is urgently needed to determine the rate of recharge. Land surfaces are subsiding. In Galveston, Texas, the land surface has sunk as a result of groundwater withdrawal to a level which makes half the city vulnerable to destruction by a tidal wave.

"Soil tilth is deteriorating from excessive use of chemicals, machine compaction, lack of organic material. **We need a national tilth center to research soil quality needs and solutions.**

"We need a land use program. The plowing of grasslands and marginal land when wheat was $5 a bushel was disaster, that should not be repeated. The dust bowl can return. Les we forget, the strength of a Nation is dependent upon the fertility of the SOIL, and the wise management of that great resource. When the good topsoil has all gone down the river, then what! When the last grain of topsoil is gone from the state of Iowa and Minnesota — what then, do we eat?"

This is the conclusion of Wes Libbey's statement to the delegates in attendance at the Minnesota Division's IWLA Convention held at New Ulm, Minnesota, April 26, 1980.

Minnesota Division, annual meeting cites need for Soil Conservation
(Reprinted from Herald-Review, Grand Rapids, Minnesota) May 5, 1980

Saving Soil

A number of resolutions passed at the 57th annual convention of Minnesota Division of the Izaak Walton League of America, held at New Ulm, Minnesota, April 26-27 called attention to the importance of SOIL CONSERVATION.

Representating the Grand Rapids Chapter were Wes Libbey, Jim Lang, Adolph Anderson and Roy Knott. Libbey, a member of the national Soil Conservation Committee presented the following resolution which was approved and sent on to the National organization:

"The United States has invested huge amounts of money in dams across the Nation. This investment can be impaired or lost by sedimentation. This unwanted sedimentation is the result of precious topsoil by erosion. United States engineers sent to Persia to build a dam excavated for footings and discovered an earlier dam buried in silt. Those who ignor the mistakes recorded by history are destined to repeat them. To protect both life sustaining top soil and the taxpayers investment, the Minnesota division, Izaak Walton League of America in an annual session assembled in New Ulm, Minnesota, April 27, 1980 resolves that:

"1. all proposals for dam construction by public agencies contain a program of soil conservation practices to prevent erosion on lands in the watershed as an integral part of the project.
2. watersheds of such existing dam projects be given erosion control treatment as rapidly as possible."

OTHER RESOLUTIONS APPROVED included this one on the Water Bank program from the Otter Chapter of Fergus Falls.

"The Water Bank Program enacted by Congress in 1972 and administered by the U.S. Department of Agriculture is a cost efficient method to preserve wetlands for wildlife, flood damage protection, ground water recharge and erosion reduction. Preservation of wetlands and associated uplands by the Water Bank Program also contributes to the Natural beauty of the environment.

"The Water Bank Program authorizes expenditures of up to $10 million a year to administer the Act. These Funds provided to be insufficient to adequately accomplish the purpose of the Act, and on Jan. 21, 1980 the Act was amended to include among other things, a funding limit of $30,000,000.

"The additional funding level, while now authorized, has not been appropriated during these austere times, our leaders may not realize which Water Bank provides, benefits which, if provided by other programs, would be much more costly to the taxpayer.

"Therefore, be it resolved: The Minnesota Division of the IWLA urge the president and congress of the United States to appropriate the full $30,000,000 now authorized so that the important work of protecting wetlands on private lands will not go undone."

Opposition to plans for an earthen dam on the Wild Rice River near Twin Valley contains some of the little remaining wildlife habitat in an area of Norman County that is intensely farmed. "The proposed dam across the Wild River would destroy existing eco-systems of flood plain forest, agricultural land, and stream bed. Reduction or changes in habitat and disruption of ecological balances would affect vegetation and wildlife well beyond the limits of the designated flood pool.

"Therefore, be it resolved: 1. That the Minnesota division of the IWLA be opposed to the present proposed Plan of the Corps of Engineers to construct an earthen dam on the Wild Rice River, near Twin Valley, Minnesota. 2. That the Division request the Wild Rice Watershed District and the Corps of Engineers to vigorously pursue all other alternatives for providing flood control beginning in the most remote sections of the tributaries feeding into the Wild Rice River.

"Some of the alternatives could be: 1. Restoring previously drained natural basins and reservoirs; 2. Encouraging and/or subsiding the application of water holding farm practices on the uplands, and slopes; 3. restoring steep and highly erosive lands to vegetative types; 4. installing mechanical water retaining structures; 5. restricting or prohibiting all future open ditch drainage of natural reservoirs in the watershed.

Natural Resources Defense Council, Inc.
1725 1st Street, NW, Suite 600
Washington, D.C. 20006

Earth Day — April 22

Soil Losses Threaten Food Supplies

According to the Soil Conservation Service, water erosion strips 3.8 billion tons of soil a year from the nation's cropland and another 1.5 billion tons of topsoil are blown away by the winds. Reports of the General Accounting Office (GAO) and the Senate Agriculture Committee say top soil losses are 25% worse today, than in the dust bowl years of the 1930's. The U.S. Department of Agriculture reports that 241 million acres of rural land are eroding faster than they can be replenished.

Iowa, one of the nation's richest agricultural producers had an average of 16 inches of topsoil when intensive cropping began over a century ago. Today, Iowa's farmers are growing their corn and soybeans on an average of eight inches of topsoil. In Illinois, 181 million tons of soil wash from cropland each year — about two bushels of dirt for every bushel of corn produced. In parts of the midwest, soil erosion at the 1977 rate would if continued, cut crop yields up to one-third within 50 years.

Government figures show that less than 30% of the erosion control needs of America's farms are being met. "In the 1980's, farmers with strong support to federal, state and local agencies are going to have to control these serious topsoil losses or there could be major declines in farm productivity at a time when the world's food needs will be expanding rapidly," said NRDC's Tom Barlow.

The Nation's population is projected to rise from 215 million people (1976) to 300 million people by 2030. The Director General of the United Nations Food and Agriculture Organizations reports that about 400 million people around the world now suffer from malnutrition; and even if we make the most enormous efforts to increase food and agricultural production about 250 million people will be starving by the year 2000.

A Matter of Inches

On January 20, 1980, I received 20 copies of the newest book on soil erosion in Iowa from Mr. William J. Brune, State Conservationist of Iowa. These are excellent publications and to anyone who would like to get one of these, I will mail post paid, because they contain the latest information that has been compiled.

Some high points in this publication are as follows:

> Soil conservation programs in Iowa and throughout the United States are at the CROSSROADS. Emphasis was placed on the care of the land in the 1930's, when drought and dust storms wakened the Nation to severe erosion problems. As farmers grew bumper crops tha became bumper crops that became surplus crops, interest in and support of soil conservation wavered. In the 1970's, interest in soil erosion problems was renewed when the quality of the environment became an issue.
>
> "Renewed interest in caring for Iowa land comes at a critical time. Topsoil is already lost from some sloping soils within the state, and it could be lost from most of them within the next 50 years, unless some changes are made. **The decisions made on resource care in the next 10 years by the people of Iowa and the rest of the nation will likely be among the most far reaching in history. The future of the land and our way of life depends on the outcome of these decisions.**"

Issues

ISSUE:	Should soil and water conservation programs remain voluntary or should saving the soil be mandatory?
ISSUE:	Who should pay for soil conservation work? Should soil saving programs be funded publicly or privately? or both?
ISSUE:	In light of the erosion control job ahead, should management practices such as conservation tillage be given priority over structural practices such as terraces?
ISSUE:	Should farm commodity support programs be adjusted to enhance soil and water conservation programs?

ISSUE: How much involvement should the Federal government have in Soil Conservation Programs — and what roles should county and state governments have?

ISSUE: Are there new ideas that could help speed up soil conservation work? Who has them? Do YOU?

From our eastern Resource correspondent, Dr. Clarence Hebert, I have received several copies of THE AGRICULTURIST, from the University of Maryland, entitled SOIL AND WATER RESOURCES, edited by Fred P. Miller, Soil and Water Resource Specialist.

I am pleased to include the following excerpts as a part of our report:

"Among the products that OPEC purchases from the U.S. and Canada are food grains. A considerable portion of the World's grain production for export is grown in this region. Until recently, U.S. farm exports just about paid for oil imports. In 1978, U.S. farm exports totaled $30 billion, compared to $43 billion expended for oil imports. In 1979 price hikes placed our U.S. trade balance of payment in the red.

In the debate to preserve our prime agricultural lands in the U.S. one cannot make a strong case for preserving such lands solely for domestic U.S. food production. However, the case becomes stronger as one views the potential for foreign exports or the potential for growing crops to produce gasohol. **Such prime farm lands are one of the most precious of our resources.** OPEC has stated "they ain't making any more oil." Likewise, "they ain't making any more land, either." And the U.S. is consuming its agricultural lands at an alarming rate. Since 1968, Americans have converted the equivalent of the State of Louisiana — about 29 million rural acres, to shopping centers, housing areas, roads, airports, lakes and other non-agricultural uses. By the year 2000, an additional 60 million acres will be converted to such uses at current conversion rates (I). Much of this land is prime farm land and most of the land shifts are irreversible.

"There is another 'disease' attacking our agricultural land base — 'erosion.' Our topsoil is being lost from farms at an average rate of nine tons per acre, each year. Soil erosion by water is now a major problem on more than half of the 450 million acres of crop land in the U.S. Many states including Iowa have lost as much as half or more of their original topsoil. It is estimated that up to one-tenth of the productive U.S. farmland will, by the year 2000, be lost through soil deterioration or urbanization.

"History may well record that civilization ran out of oil in the 21st century. But alternate energy sources allowed us to continue at an acceptable standard of living. Even today, we have many alternate sources of energy. But we have not yet found a substitute for soil and a suitable climate as an energy efficient system for food production.

"Losing our prime farmlands to erosion and urbanization puts us on 'a collision course with disaster' according to USDA Secretary of Agriculture Bergland. This course is not easy to correct. U.S. farmland is privately owned by millions of American citizens — each with different levels of stewardship. It is this situation that has led some to suggest that the freedom to use the land for any purpose should be tempered with a judgement as to how the private and common interests of society are best served."

The Iowa Five-Year Resource Conservation Plan

A publication just off the press sure to attract National recognition and acclaim, is "the Iowa five-year Resource Conservation Plan." Our consultant, H. Wayne Pritchard, was one of those working on formulating this publication. He has mailed me seven copies and I wish to share with you some of the highlights of Charles McLaughlin, the President of the Iowa Association of Soil Conservation District Commissioner's views. "This plan is the result of the input, concern and time given by over 8,000 Iowans across the state. In 1977, the United States Congress passed Public Law 95-192 the Resources Conservation Act (RCA) requiring each state to conduct an appraisal of its soil and water resources. The U.S. Department of Agriculture was designated as the lead Agency in carrying out this project. In Iowa, the project was given to the Iowa Department of Conservation.

"Iowa chose to carry out the task from the grass roots level and held local and regional meetings to gather citizen input. Iowans were asked to rank and prioritize their soil and water conservation concerns. The outcome of that ranking is contained in the printed report and is the basis for which the recommendation is presented.

"After this stage of widespread input, the concerns were divided into four groups under the leadership of the Iowa Association of Conservation District Commissioners and were assigned to task forces composed of representatives of public and private interest groups, government agencies and concerned citizens. They discussed each issue focusing towards trends, problems and opportunities for problem solving. Each task force prepared a report on its findings.

"The reports were presented to the State RCA Committee (another volunteer lay Committee) in July of 1979. The Committee had the final decision on the concerns and recommendations to be included in this Plan. The Local Conservation Districts throughout Iowa are in the process of developing their long range programs. We as Iowans are very proud of the way we went about preparing this report and the final outcome. It truly represents the concerns and ideas of the citizens of Iowa."

Charles McLaughlin,
President, Iowa Association of Soil
and Water Conservation District Commissioners

Report of H. Wayne Pritchard, Soil Conservation Committee Member, Izaak Walton League of America, June 1980

As a member of the League's soil conservation committee, I have been active in two areas. I have worked extensively with the Iowa Association of Soil Conservation Districts on carrying out the activation of the Iowa 5-Year Resource Conservation Plan, a part of the Resource Conservation Act of 1977, Public Law 95-192. I believe this program could and should be actively supported by the League as it calls for a review of the soil and water resource needs of the nation every five years.

The funds for the 1979-80 fiscal year were allocated to the various states through the Soil Conservation Service. States have used these funds to carry out the intent of the survey in various ways. There was a real opportunity to secure new and active cooperation and coordination by the various agencies and groups. The program has worked better in some states than in others. Iowa apparently has one of the best records under the leadership of Charles McLaughlin, chairman of the Iowa RCA committee and president of the Iowa Association of Soil Conservation District Commissioners. "Chuck" is a farmer from Britt, Iowa. He has been so active in leadership roles that he is now nationally recognized as a speaker regarding land use, soil conservation or the entire resource area. He is particularly interested in conservation education. I would recommend "Chuck" as a speaker for any state or national Izaak Walton program.

As valuable as the RCA program could be, I am concerned that it could become "an exercise in futility" unless the Administration in Washington gives more recognition to the possibilities this Act provides. My basis for this thought is the manner in which the Resource Planning Act, designed to list the needs of the Forest Service, was handled by the Administration during the current budget hearings. A discouraging report of this program appeared as an editorial in the June 1980 issue of American Forests. Izaak Walton members would seemingly agree that both of these Acts could be meaningful to conservation programs if given the opportunity to function.

I am also serving as chairman of a committee to revise the Resource Conservation Glossary published by the Soil Conservation Society of America. This glossary is extensively used in conservation education activities by high school and college instructors as well by many resource agencies. There are 37 technologies represented by subcommittees and the glossary is an attempt to standardize conservation and resource technology. Copies of the 1976 edition are still available. It contains 2700 terms. The revision scheduled for mid-1981 will be enlarged to meet the newer concepts in technology as well as terms associated with programs developed since 1976.

There is great opportunity for chapters of the Izaak Walton League to work with soil conservation leaders, locally and on a state and national basis. I would recommend that chapters maintain contact with and offer their services to the local soil conservation district, that state divisions work with their state soil conservation departments and the Soil Conservation Service leaders in their state. These three groups are important to the success of the soil conservation program. Other agencies, including the Extension Service and the Department of Conservation, are also important state contacts. The names of the state and federal leaders in each state can be obtained in the Conservation Directory published by the National Wildlife Federation.

H. Wayne Pritchard
Committee Member

Oregon's Natural Resource Committment

Our good friend Past National President Dr. Alfred Kreft, mailed us a very recent publication, entitled, "Oregon's Natural Resource Commitment." Al has a great concern for the protection of our Natural Resources, and has been a frequent contributor of excellent resource information to my office. I wish to include in this report some "highlights" from this most interesting report, and I quote: "The report was prepared jointly by the Oregon Association of Conservation Districts, State Soil and Water Conservation Commission and USDA Soil Conservation Service.

"Oregon's Natural Resource Conservation Commitment" is a summary of what Oregonians view as major concerns in the use and management of Oregon's Natural Resources. Oregonians, helped prepare the report by attending public meetings to let us know what they consider our most pressing natural resource problems. The meetings were conducted by the Soil Conservation Service (SCS) and local soil and water conservation districts as part of the Resources Conservation Act of 1977. At the same time, Oregon's soil and water **Conservation Districts took a fresh look at their long range needs.** During 1979, every district in the state published their priorities and objectives in a natural resource conservation program.

"Most of our efforts assist landowners and managers to solve conservation problems on private land. We're involved with land where food and fibre is produced, where our water supply is derived, where a large measure of recreational and scenic enjoyment is provided and on which much of our wildlife is at home. Oregon's Natural Resource Conservation Commitment provides current estimates of the extent of the major problems discussed. Work on these problems will vary from year to year depending on availability and staffing and funding. The local soil and water conservation districts or Soil Conservation Service offices can provide more information about what we are doing and where we are going.

"We sincerely encourage continued support and public participation in our activities. If you see something you DON'T like . . . tell us. If you see something you DO like . . . help spread the word so that others will get involved. We hope that you will agree that conservation is everyone's concern.

Signed:

Guy W. Nutt	Charles V. Liles	Cal Krahmer
State Conservationist	Director	President
Soil Conservation Service	State Soil and Water Conservation Commission	Oregon Assoc. of Conservation Districts

Soil Tilth — an Investment in the Future: a proposal for a National Soil Tilth Center at Iowa State University of Science and Technology, Ames, Iowa

The Problem:

Soil tilth results from the interaction among biological, chemical and physical components of the soil along with man-made and natural forces applied to the soil. Although these interactions are imperfectly understood, some of the effects of soil deterioration have been observed and reported.

Soil tilth is a major factor in the following problems:

- Some crop yield increases are leveling off in spite of substantial advances in crop production technology
- Soil erosion is increasing and some soil conservation are proving to be unacceptable.
- Pollution of streams, ponds, and lakes from agricultural runoff is increasing.
- Tillage and planting are becoming more difficult and require more power and energy.
- Controlling erosion and establishing plants on non-agricultural lands had become a serious problem.

Location of the Center

Senate document 59 recommended that the Soil Tilth Center be located at or near a land grant college or university in the humid section of the country where supporting research facilities are available. This document also pointed out that structural attributes of soil are of greatest importance in the North Central Region of the United States where "intensive intertilled cropping patterns leave the land exposed to erosion during critical periods."

Iowa has been recommended as the location for the Soil Tilth Center by the North Central States Experiment Station Directors, the Iowa Association of Soil Conservation District Commissioners, and the Research Committee of the North Central States of the National Association of Soil Conservation Districts. he North Central States contain more than one-third of the nation's harvested cropland acres. This egion produces four-fifths of the Nation's corn crop and 7.2 million acres of soybeans in 1977.

Heartland

The Honorable Bishop Dingman, Diocese of DesMoines, Iowa, has been instrumental in developing a apidly growing Soil Stewardship Program known as Heartland.

When Pope John Paul made his recent visit to DesMoines, he called attention and was very impressed with the rich soil and the great need to use good stewardship in maintaining its fertility for the resent and future generations.

We commended the work of the Catholic Church for recognizing the tremendous challenge that is efore us and we applaud them in their effort through their project, Heartland, in bringing about a greater wareness in helping to acquaint its members with what has happened, and what is happening to our great esource, the SOIL.

Acknowledgements

At this time, it is appropriate that I sincerely thank all who have mailed letters, newspaper clippings, ogether with other resource information. It is greatly appreciated.

The Soil Conservation Committee is deeply indebted to H. Wayne Pritchard, now serving his second ear as Consultant to the Soil Conservation Committee. He has given your chairman excellent help and uidance throughout the year.

Mr. William H. Greiner, Executive Vice President, Soil Conservation Society of America, Inc. likewise as given the Soil Conservation Committee excellent service, having made on several occasions, their film ntitled, "We are of the soil," available for the use of your chairman. In addition, his office has been a rich urce of Conservation Education material. Bill Greiner is serving his second year as the Honorary Chairman of our Soil Conservation Committee.

Mr. William J. Brune, State Conservationist for Iowa has supplied our Committee with a most enerous supply of Resource material, which have been most helpful in our effort.

I wish, also to thank our National President, Lee Dallager for his frequent contributions of printed esource material and his keen interest in Soil Conservation.

It has been for your chairman, a real pleasure to work with these dedicated people. A special thanks our National Staff for their help and assistance throughout the year.

* * *

In Summary

SINCE THE FOUNDING OF THE SOIL CONSERVATION MOVEMENT, in the mid 1930's, following the era of the dust storms, slightly more than $15 billion have been spent on Soil Conservation to protect one of our greatest resources, the SOIL; yet, this is only a drop in the bucket, compared to what was spent on the Space Program, or Defense. THE STRENGTH OF A NATION IS DEPENDENT ON THE FERTILITY OF ITS SOIL. It is difficult for the Soil Conservationists to understand why SOIL Conservation rates so low a priority, when, almost all of the food consumed comes, either directly or indirectly from the soil.

Our Soil Conservation Committee report is not intended to be a negative report, but rather to present as nearly as we can, where we stand NOW. Within the span of our lifetime, we will undoubtedly have sufficient prime farm land to produce an abundance of food for Americans, but the real meaning of Conservation is to conserve for those who will come after us.

The U.S. has lost ground . . . too much, but it is not yet too late to implement measures that will reverse this trend. The American Farmers as a group are the best in the world. They have at their disposal, the most fertile land, the finest farm machinery and some of the World's foremost men of science from which to seek counsel.

The Aero-space engineers, and their colleagues were able to put a man on the moon in the late 1960's . . . an almost unbelievable feat, yet they succeeded., The most recent figures that I saw stated that an American farmer currently produces enough food to feed himself and 61 other people. No other country in the world can come close to that figure. How fortunate we are to live in a land with such great resources for food production.

At this point in time, we have a golden opportunity to make a great decision. WE ARE AT THE CROSSROADS. We can take one giant step forward or slip back. The decision is ours.

No longer are the defenders of the soil a week voice crying in the wilderness. There is a light at the end of the tunnel. The issue of soil conservation is gaining momentum and heating up in the media. For the short period of time that we have dominion over the works of our creator, let us be good stewards always in order that those who come after us will have a more productive soil.

Thank you.

Leo G. Windish
Chairman, Soil Conservation Committee, IWLA

Statement of Wayne Eckles, Griswold, Iowa

Honorable Chairman, and Members:

I have long wondered why river control is not included in the current ASC programs. We, who have rivers flowing through our farms, are faced with a two-headed problem. The rivers belong to all the citizens, rightfully so, but it is the farmers' problem when it goes on the rampage and washes away valuable bottom land.

My own experience is probably more or less similar to thousands of other farmers in the United States who have rivers flowing through their farms. I have a field that measures by ASCS aerial maps as 9.6 acres just ten short years ago. On this year's survey, it will measure less than five acres. In another few years, it will be completely gone.

The river is the East Nishnabotna River and my farm lies on the East Pottawattamie county line. Many years ago, the channel was straightened by the Corps of Engineers; and now it is trying to revert to its original channel. The Corps has not answered my correspondence. The EPA has informed me to do nothing without their approval. Quite naturally, a lone farmer cannot afford to undertake a river-straightening project even if he could get approval.

It seems to me that the farmer has a right to some protection for his land from the same government agencies that so zealously protect the citizens' river. If most have had the experience I have had, it will be too late before anyone listens.

I would estimate that the tonnage in soil lost would be equal to or above that of hillside wash. I am certainly not criticizing the ASC for hillside terraces, but I believe the farmers with river problems should be given consideration also.

Iowa Fertilizer & Chemical Association, Inc.,
Des Moines, Iowa, August 18, 1980.

Senator Roger Jepsen,
Dirksen Senate Office Building,
Washington, D.C.

Dear Senator Jepsen: I did attend the Ames hearing August 14th as a representative of the Iowa Fertilizer and Chemical Association and listened to the many presentations on the need for soil conservation practices in Iowa and the Nation.

A statement was not presented at your hearing, however the following comments are being submitted for the record and your edification because we feel strongly about the need for conservation of our soil resources.

One important message that came thru loud and clear from the many participants making statements is that funding is the primary ingredient necessary to establish and maintain soil conservation practices on our farms.

The other message that came thru loud and clear is that each participant answered your question about mandatory or voluntary soil conservation programs strongly and emphatically that it be kept voluntary.

We agree that both messages are correct however none of your participants mentioned the 208 water program which is already in place and which we believe will force mandatory non point source pollution control measures which means farmers under that law will be forced to control soil erosion losses. We have attended many of the state SPAC Committee meetings and this mandatory control program is being discussed at length.

It would appear to us that unless a voluntary program adequately funded is made a reality very soon through USDA, SCS and ASC that this mandatory program is going to be forced upon agriculture by the 208 water program administered by EPA and Iowa DEQ or that law will need to be amended.

We believe this point must be brought to your attention as we did observe that persons did attend your hearing from those agencies concerned with the 208 program.

In addition we are enclosing a statement presented to the Iowa Congressional Delegation in late 1977 regarding the Farm Program. We believe these comments to be very valid today in securing the establishment of soil conservation practices on our farms.

The role of fertilizer and ag chemicals during the decade of the 80's is the title of another statement we presented recently before the Iowa D.E.Q. that deals with the problems of soil conservation.

Be assured that our association members are very aware of our soil conservation needs and would urge swift government action to not only put together a farm program of positive incentives for voluntary soil conservation but equally important make provision for direct tax saving incentives to farmers for establishing these practices on their farm land.

At any time you are in the Des Moines area we welcome you to stop at our offices or phone if we can be of service.

We appreciate the help and cooperation we receive from your people in Washington and the Des Moines office.

Sincerely,

WINTON ETCHEN,
Executive Vice President.

Enclosures.

IOWA'S ENVIRONMENT IN THE NEXT DECADE FROM THE VIEWPOINT OF THE IOWA FERTILIZER AND CHEMICAL INDUSTRIES

(By Winton Etchen, Executive Vice President)

I should like to begin my comments by saying that there is only one reason for the use of agricultural chemicals and that is the production of food and fibre. The best estimate today is that about 50 percent of all food and fibre produced in the U.S. is due to the use of ag chemicals including fertilizers.

The question is how do we view this use during the next decade?

We anticipate a great expansion in the uses of agricultural chemicals both on a world wide basis, a U.S. basis and here in Iowa because of one simple overwhelming fact. The need for food and fibre by our continually expanding world populations dictates that we produce more and more food and fibre from the limited arable acres available. These acres cannot be expended as world populations increase in fact here in the U.S. they are steadily decreasing due to housing, roads, recreation needs, etc., therefore it is a fact of life that higher and higher yields must be obtained from these remaining available acres or people will starve. The neglect of local agriculture in Cambodia due to a political situation is a valid case in point at the present time. A majority of these people are starving today from lack of food.

The judicious use of agricultural chemicals has been and still is in the foreseeable future the one best available source of increasing yields of food and fibre according to leading scientists such as Nobel Peace Prize winner Dr. Norman Borlaug. The green revolution he has started in the developing countries is based on new varieties of grain crops that have the potential for greatly increased yields when grown with the use of fertilizers and ag chemicals. Another factor we believe will receive greatly increased emphasis in the 80's is the conservation of our Iowa topsoil. The erosion losses we are experiencing must be controlled if we are to remain a great food producing state. Minimum and no-till farming methods must be adopted by Iowa agriculture in addition to terraces, dams, grassed waterways and other control measures. The movement to no-till or minimum till systems of growing rowcrops will greatly increase the need for herbicides to control weeds under these cropping systems. There is no other substitute available to the farmer to use under this cropping system.

In addition there are approximately 10 million acres of unimproved pastures mostly in Southern Iowa that we anticipate being brought into more productive grass and row crops which will of course require greatly increased quantities of fertilizers and ag chemicals to expand the production potential of these acres. For example at the Beconsfield Exp. Farm, Iowa State University has shown that unimproved bluegrass pasture now producing 100# of beef per acre annually can be renovated to warm season grasses and with proper fertilization and herbicide use to control weeds increase this production dramatically to 600# of beef per acre per year.

The energy crunch is another factor that is forcing agriculture to quickly adopt no-till methods of cropping and the associated increased ag chemical use. A greater factor however is that the use of herbicides to control weeds is a much more energy efficient method than the use of fuel in mechanical equipment for cultivation and farmers recognize the economics of this method.

Because of these and other reasons, we believe ag chemicals and fertilizer use will increase greatly in the 80's due to the benefits to be derived, we recognize that certain risks inherent in that use must be controlled or eliminated to prevent unreasonable adverse effects on man or the environment.

We forsee mandatory control of soil erosion becoming a reality for Iowa Agriculture in the 80's. This in turn will control the movement of fertilizer and ag chemicals attached to these soil particles that move into streams and lakes where they become pollutants. This will include controls on fall tillage practices that have allowed serious wind erosion to take place. Our industry is working hard to develop new systems of application such as electro static spraying whereby the particles of spray are negatively charged and thereby attracted to the positively charged growing crops thereby resulting in less material being used and a much greater percentage of the material being applied to the target crop.

Recirculating sprayers have come into widespread use this past year that apply material only to the target weeds and the rest of the material is returned to the tank.

This method effectively reduces the amount of chemical introduced into the environment.

New products and equipment to control drift during application of ag chemicals are being developed. Some examples are nalcatrol, a no drift agent and rain drop nozzles.

The custom application industry is today rapidly moving towards a scouting program to determine pest infestations in growing crops and timing of applications to secure maximum effectiveness of ag chemical use. This is a key part of the integrated pest management techniques now under development by land grant colleges and industry.

Agricultural aircraft are being equipped with automatic flagging devices that permit accurate spraying of fields without a flagman on the ground. A number of new equipment developments are doing a much better job of controlling and reducing drift problems from aerial application.

In summary, we expect increased emphasis on similar new technology break throughs to help this industry do a better job of applying ag chemicals in the 80's to the target area only in a quantity sufficient to control the pest and improve the growth of food and fibre crops.

That is what the use of ag chemicals is all about—to produce more food and fibre from the limited acres available to feed the worlds rapidly expanding populations. There is no other reason. We recognize that we have problems in this industry when a chemical is misused or misapplied and accidents and spills will happen.

Our association representing some 1450 companies and persons in the ag chem industry in Iowa will continue to emphasize strong educational training and safety programs through the coming years because we recognize the need to apply ag chemicals correctly in the quantity specified on the label to the target area only. I would close by reminding you that we are concerned also because "Its our environment too." We want to protect it for the benefit of our children and the generations that follow after us.

ADAMS COUNTY SOIL CONSERVATION DISTRICT,
Corning, Iowa, August 11, 1980.

Senator ROGER JEPSEN,
U.S. Senate, Committee on Agirculture, Nutrition, and Forestry,
Washington, D.C.

DEAR SENATOR JEPSEN: We need help in Adams County to preserve our valuable soil to maintain our number one industry, Agriculture! This past year has taken an even greater toll in topsoil loss.

A number of factors have caused additional problems in conserving soil. Prices of livestock have been depressed. This has led to converting of good pastures to marginal cropland. We need to recover these acres to pastureland, but prices must change to provide a steady profit year in year out.

Our cropland needs practices such as terraces, contouring, and grassed waterways. With the push to bigger machinery and large farms, it becomes more difficult to farm these practices with the large machinery. Somehow, it must become profitable to farm our land with these practices.

The current cost share programs for permanent conservation practices have been good. But there has not been enough funds available to do the work people are willing to do, much less what they should do. In addition, much time and expense are involved in administering these funds, that could be used in working with landowners on a one to one basis in the conservation planning process.

A better way must be found to provide the incentives to get conservation on the land. Currently, a landowner must apply for cost share assistance and then wait to get approved. With a two year waiting list for funds, the landowner can become discouraged. If he could plan and do his conservation when he desires and then be able to apply some type of tax credit or deduction, we feel over three times as much conservation could be accomplished. The landowner needs this flexibility rather than be tied to some administrative procedure that hinders his conservation work.

A personnel ceiling has been imposed again on Federal employment. Our staff was reduced in another ceiling from three to two people. The workload has doubled. If we lose another staff member, the conservation program will be lost. We desperately need to maintain our staff and actually grow if the conservation program is to be completed.

We don't like to be in a position of asking for help. It is impossible to relate all our thoughts and ideas to you in a letter, but we are sure you are aware of many of the problems. Thank you for your time and consideration. Please make this letter part of the testimony for the hearing by the U.S. Senate Agriculture, Subcommittee on Environment, Soil Conservation, and Forestry scheduled in Iowa August 13, 14, and 15.

Sincerely,

JERRY PECKHAM,
Vice Chairman.

STATEMENT OF ROBERT FAGERLAND, ACTING DIRECTOR, IOWA CONSERVATION COMMISSION, DES MOINES, IOWA

I. WILDLIFE RESOURCES AND SOIL CONSERVATION

The State of Iowa is composed of approximately 56,290 square miles, or 35.9 million acres of land surface. According to the original land survey, virgin prairie covered five-sixths of the land area of the state and the remaining one-sixth was forested. The northern one-half of Iowa was dotted with thousands of wetlands and marshes formed during the retreat of the glaciers. These conditions produced a rich and varied wildlife resource that probably seemed limitless to early residents.

Settlement of the state was accompanied by drastic changes in wildlife habitat conditions and wildlife populations. The fertile prairie lands were plowed, wetlands drained and forests cut. Agriculture quickly became the dominant force in the state's economy and remains so today. Correspondingly, the state's wildlife resources have declined markedly during this same period of time.

Excluding roads and highways, an estimated 99 percent of the land in Iowa is in private ownership. Approximately 300,000 acres of public lands are being intensively managed for wildlife by the Iowa Conservation Commission. This figure represents 0.8 percent of the total land area in the state.

Soil conservation and wise land use play an extremely important role in the management of the nation's wildlife resource. Since wildlife populations are a product of their environment, the condition and use of that environment will dictate whether a specie survives or perishes. Rising land costs and the perceived need for all-out production have caused many Iowa farmers to drain wetlands, remove fencerows, enlarge fields, and clear brush and timberlands for crop production. These practices have a very detrimental effect on wildlife, and soil and water resources suffer as well. The drainage of wetlands reduces important waterfowl habitat, lowers water tables, and increases flooding problems. Conversion of pastures and woodlands into rowcrop production, and overgrazing of pastures greatly increases soil loss, particularly on the steeper terrain. Enlargement of fields, removal of fencerows, and widespread fall plowing greatly increase the potential for wind and water erosion. Recent trends away from a diversified system of farming and toward more intensive rowcrop production pose serious problems for wildlife and society alike. The shift to a corn-soybean farming operation further reduces the habitat base necessary for many wildlife species to survive. Conversely, the rotational system of farming that incorporates small grain fields and meadow in conjunction with rowcrops creates habitat conditions attractive to a wide variety of wildlife species. Soil losses and associated ills (stream siltation, dredging, lowered productive capability) related to intensive rowcrop production are problems that should be of great concern to all segments of society since its future welfare is so heavily dependent upon the ability of the land to produce food and fiber for its use.

To illustrate the shift in farming emphasis, Iowa lands devoted to the production of oats, hay, and pasture (wildlife nesting cover) declined by 4.8, 2.5, and 2.5 million acres respectively over the last twenty years. During this same period, land devoted to corn and soybean production has increased 2.4 and 4.7 million acres respectively. The resulting loss of nesting cover is considered the primary reason that upland-dwelling wildlife populations have been on the decline recently.

The correlation between declining wildlife populations and the declining habitat base is readily apparent to resource managers. Long-term surveys and research studies point out the problem quite clearly. For example, a 1974 study by an Iowa State University graduate student in Fish and Wildlife Management documented the decline of wildlife cover in 27 north-central Iowa counties through the use of 1939 and 1972 aerial photographs. The study documented a 38 percent decline in good quality nesting cover and a 33 percent decline in winter cover. To cite another example, winter flush counts of pheasants on the Winnebago Study area by two researchers in 1941 revealed 180-200 pheasants per square mile. An intensive search by Iowa Conservation Commission field personnel in 1976 failed to locate any pheasants on the entire 1,520 acre study area.

Little attention has been given to the economics associated with the nation's wildlife populations, yet billions of dollars are spent annually by people that are intrigued by them. Sportsmen, in particular, are noted for their generosity toward wildlife. They have been credited with expending more than $3 billion toward wildlife restoration through purchases of hunting licenses and stamps, and payment of excise taxes on sporting arms and ammunition. The National Shooting Sports Foundation estimates nearly 300 million recreation days are spent hunting annually. Surveys by the U.S. government show that sportsmen (hunters and fishermen) add nearly $7 billion to the nation's economy each year. That represents a very significant expenditure of monies and does not include the countless dollars expended on related wildlife pursuits, such as wildlife viewing, nature hikes, sightseeing, etc. In Iowa, the estimated expenditure by pheasant hunters alone in 1971 was 22 billion dollars, exclusive of the license fees involved. A comparable figure from the 1975 survey is 30 million dollars. Who can put a value on the enjoyment received by individuals watching birds at their feeders, or raising young in their backyards? To a considerable extent, wildlife populations are taken for granted with the thought that they will always be there. There is a tendency to forget they are a product of the land and have certain basic needs, notably food, water, and suitable cover. The presence or absence of these needs will determine their future existence and relative population in the state.

Perhaps the most encouraging thing about the problems that confront us in soil, water, and wildlife conservation is the fact that more people are becoming aware of the need for addressing these problems in a responsible and intelligent manner. Opportunities to correct the mistakes of the past are available if concerned individuals work together and make a firm commitment to seek reasonable solutions.

The following list of potential changes should receive consideration for implementation in future agricultural programs.

1. Actively discourage landowners conversion of permanent cover to rowcrop or small grain production. Encouragement and/or some form of incentives should be provided landowners to keep the land in that type of cover for which it is best suited (wetlands, grassland, or woodland). Previous calls for "fence row to fence row" production resulted in extensive conversion of permanent wildlife habitats into very marginal crop producing land.

2. Providing high cost share rates for conversion of marginal cropland to warm season (native) grasses. These grasses provide excellent erosion control benefits, quality pasture during the summer months, and productive wildlife habitats when managed properly.

3. Encouragement and/or incentives to return to a system of diversified farming rather than all-out rowcrop production. Crop rotations serve the multiple pur-

poses of (A) breaking away from a developing pattern of monoculture, (B) improving soil organic matter through a rotational system of farming, and (C) reducing erosion and soil loss.

4. Encourage and/or provide incentives to farmers to utilize spring plowing rather than fall plowing of fields. Conversion to minimum tillage methods and provisions for no-till research projects should also be stressed.

5. If and when set-aside programs are reinstituted provisions should be incorporated into the regulations to establish an early cover crop and provide 3-5 year set-aside contracts to prevent unnecessary soil erosion and provide wildlife nesting cover.

6. Encourage and/or provide funding for research activities associated with biological pest control on farmlands.

II. FOREST RESOURCES AND SOIL CONSERVATION

The 1974 U.S. Forest Service Survey showed that Iowa had 1.5 million acres of commercial forest land. In addition, there is approximately another one-half million acres of non-commercial forest land in the state. This non-commercial includes narrow strips, poorly stocked areas, and acres withdrawn from commercial use because of ownership. Every county in the state has some forest land, ranging from as much as 25 percent in Allamakee County, to as little as 1 percent or less in 31 counties. Iowa's most extensive forest areas are in the eastern and southern parts of the state. Forests throughout the remainder of the state are scattered along stream banks and in farm woodlots and shelterbelts.

Farmers own two-thirds of Iowa's forest land. Another 24 percent is owned by industrial and other non-farm landowners. The government, federal, state, county, and municipal own 8 percent of the forest land. These lands are in state forests, parks, wildlife areas, other recreational areas, institutional lands, military lands, and watershed protection and flood prevention lands.

The oak forest types such as the white oak-red oak, hickory type, white oak type and bur oak sawtimber stands account for more than half of the forest area. The state's commercial forest land supports 1,055 million cubic feet of growing stock. Included in the total volume of growing stock are 3,486 million board feet of sawtimber. Hardwood species make up 99 percent of the growing stock inventory. Oaks, soft maples, elm, and cottonwood are the leading species and make up two-thirds of the hardwood growing-stock volume.

Management of this growing stock is a positive action to manipulate the resource to fulfill basic needs. As the harvest exceeds growth, woodland contribution to future product needs in Iowa and nationally is diminished.

Forest management which sustains woodland acreage on appropriate sites, and accomplishes a sustained production on these acres, is necessary for a stable resource.

Trees are a crop that bring millions of dollars annually to Iowans. Trees are the raw material for more than 60 sawmills operating full-time and for many other industries. They clothe the countryside with natural beauty and they provide relaxation and recreation for thousands of visitors each year. Trees in shelterbelts and windbreaks protect Iowa farmsteads and fields from the destructive forces of the elements and make living more comfortable and pleasant. The forests of the state provide the variety of habitat conditions necessary for wildlife. The undetermined and unmeasured value of Iowa forests are essential to the quality of life of Iowans.

Almost all recreational activities are associated with the woodlands of the state. As the acres of woodland disappear, the remaining acres become more and more important.

The 25-year "Iowa Conservation Plan" of 1933, in the recommendation summary, pointed to the importance of woodlands by stating "Probably no other element of conservation planning is so important as 'forest conservation,' the conservation of Iowa's woodlands. This fact is due to the dependence of all other elements upon the restoration and preservation of trees and small growth." The benefits of watershed protection, quality water, recreational opportunities, industrial raw material, and farm income all flow from the woodlands and the basic soil resource from which they grow. Continued decline of woodlands will be at considerable sacrifice.

Three major problems are apparent in the management of Iowa's woodland resources; (1) conversion of forest land to other uses; (2) poor management of existing woodlands; and (3) lack of a clear public policy for woodlands.

Conversion of forests to other uses occurs because landowner profit is higher, or perceived to be higher, from row crop or pasture than from trees. Woodland may or may not be as profitable as other alternatives. The condition, age, and composition of a specific woodland tract will determine the relationship of this crop with other uses. The problem is statewide, although woodland products are more readily marketed in some areas than in others. The problem is serious insofar as it tends to reduce a private land resource which has some public values. The problem will continue to be present, but fewer decisions against woodland are apt to be made as energy needs increase wood demand and as the total resource approaches scarcity.

Also, there is too little landowner participation in available forestry programs. It is probably true in most counties with over a few thousand acres of woodland. The situation will not change without added emphasis by agencies or policy makers.

In addition, there are insufficient tax incentives to encourage establishment or retention of woodlands. The long-term nature of forest crop requires low annual taxation of property and long-term capital gain income tax treatment to be reasonable in relation to annual crop income. There is considerable interest in tax incentives, credits, and disincentives to encourage woodland on private land.

Better education of landowners in timber values, land-use regulations, tax incentives and disincentives, greater technical assistance to landowners, increased cost-share funds, zoning to retain woodland on certain lands, promotion of current landowner assistance programs and education of legislators and the general public in woodland values all offer opportunity for encouraging woodlands.

Problems in attaining good management of existing forest are: (1) lack of participation in available forestry programs; (2) lack of technical "know-how" by landowners; (3) poor timber markets in parts of the state; and (4) technical advice is not readily available to landowners because of limited forestry service in the state.

A clear public policy toward woodland is needed, but is difficult because the desired amount of forest land differs by interest groups, woodland is not a critical economic resource in Iowa and over 80 percent of the forest is in private ownership.

Opportunities for solution lie in replacement of cleared acres with new planting, restricting cost-sharing on private land where steep land is row-cropped, applying incentive and disincentive property taxation, and restricting the steepest land and flood hazard land to permanent vegetation.

Coordination of federal and state legislative initiatives relating to forest is essential. Good stewardship is the responsibility of every landowner. The private landowner is expected to make the investments necessary to achieve his own objectives. The public should expect to carry the burden of management to achieve public values and objectives. Costs of multiple-use private forest management should, therefore, be a responsibility shared among federal and state government and the landowner.

III. FISHERIES RESOURCE AND SOIL CONSERVATION

Sport fishing is an important facet in the quality of life for one in three Iowans. More than 600,000 citizens purchase a public fishing license each year with an additional one-half of this number exempt from ordinary license requirements because they are senior citizens, youngsters, or private landowners. Iowan anglers expend an estimated 11 million activity days in the pursuit of their recreation and catch over 45 million fish from our waters. Fishing is surpassed in popularity by only picnicking and walking/hiking as the foremost outdoor activity in the state.

More than 400 Iowans are employed in commercial fishing along the great border rivers, large flood control reservoirs and contract fishing in the natural lakes. During the past year these businessmen harvested in excess of 5.2 million pounds of marketable food-fish valued at nearly 1.1 million dollars. In addition to this total, more than 200,000 pounds of fresh water mussels valued at $25,000 were taken from the Mississippi River.

Iowa was not blessed with an abundance of surface waters in comparison with other regions of this continent. The water resources of this state contains 19,000 miles of interior warmwater streams, 285 miles of small coldwater streams, 35 natural lakes with 33,000 surface acres, 130 manmade impoundments covering

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14,000 surface acres, 2,000 surface acres of oxbow lakes that were created by river channel evulsions, and man-made modification, 4 on-stream flood control reservoirs with 30,200 surface acres, and 80,000 privately-owned farm ponds with over 40,000 surface acres. Iowa also shares 203,500 surface acres of large streams with bordering states. Even without the multitude of corollary uses of this resource, this quantity of water is small to support such intense use by our citizens.

Sustained yields of the sport and marketable food fish resources is predicated upon water of high quality that will assure the perpetuation of fish life. Iowa was blessed with some of the most fertile lands on our planet; therefore, our waters are equally rich. Intense use of the land for grain food crops has had a profound affect on water quality and that water quality is directly influenced by land use practices. Soil Conservation is an integral component of the management of our fishery resource in Iowa. Continued abuse of the soil can only reduce the fisheries that are so important to our people.

Three major concerns that directly and indirectly affect fisheries have been identified relative to sound soil conservation practices. They are:

1. Sedimentation due to excessive soil loss by sheet water erosion.
2. Contamination of fish flesh from the washing of soil particles that contain high concentrations of agricultural chemicals into water courses and basins.
3. Eutrophication of our waters due to accelerated nutrient loading from high application rates of fertilizers onto the land.

Sedimentation produces both direct and indirect affects on fish populations. Most sport fish species that inhabit Iowa lakes and streams spawn by depositing fertilized eggs in a prepared nest site. Constant parental attendance to keep the egg surface free of silt to allow the passage of oxygen into the embryo is necessary to complete viable hatching. Spawning fish that attempt to construct nests in layers of sediment are not only faced with unsuitable conditions for reproduction, but often times it is a hostile habitat for embryo development. Production of young fishes is fundamental to sustained fisheries since it forms the foundation on which the entire biological structure rests.

Fish population abundance is positively correlated with habitat diversity. Sedimentation is the most prevalent factor in lowering the diversity by filling in small coves, embayments and substrate irregularities which are paramount to development of a rich and diverse biota at all trophic levels.

Sedimentation of our lakes has caused monumental problems in maintaining water quality. Uncontrolled soil erosion not only fills in lake basins, but is the primary cause of high turbidity which has deleterious effects on the abundance of sport fish populations. Recently, a survey of 107 Iowa lakes to determine what restorative measures could be implemented clearly showed about 25 were filled with soil sediments to the point where fish populations were being curtailed by chronic winterkill.

With the increased use of chemicals over the past three decades to control the myriads of agricultural insects and pests many of these compounds have found their way in aquatic ecosystems. All fish in Iowa waters are contaminated to varying degrees with persistent chemicals intended only for agricultural pests. The worst case was the complete loss of fishery for a three-year period. From 1973–1975, commercial fishermen harvested more than six million pounds of marketable food fish valued at over three-fourths of a million dollars from Coralville Reservoir on the Iowa River in Johnson County. The wholesomeness of these fish for human consumption was found to exceed the legal marketable tolerance limits of Dieldrin and the fishery was closed. That fishery remained closed until October of 1979. In addition to this, public warnings were also posted at the impoundment to notify sport fishermen that continuous consumption of large amounts of channel catfish, the most important sport fish in the reservoir, might be harmful.

Nutrient loading of the waters in our lakes has long plagued fisheries management. The origin of a vast majority of the nutrients comes directly from the watersheds that are intensively farmed and subject to significant soil erosion, particularly during intense storms. Highly eutrophic lakes always have stands of aquatic macrophytes that occupy the entire parameter of the shoreline. These dense stands of nuisance vegetation not only interfere with the predator/prey balance of fish populations but they are also responsible for curtailed fishing activity along the shorelines. Phosphorus is the trigger for heavy algae blooms that not only reduce the aesthetic appeal of a lake to outdoor enthusiast, but at times is responsible for a summer kill of fish. Early this past July, Black Hawk Lake, a eutrophic lake in Sac County, suffered a substantial summer kill of fish when a heavy bloom of blue-green algae died and depleted the dissolved oxygen. Without the nutrient loading, it is doubtful if the algae pulse would have appeared and the fish mortality would not have occurred.

The well-being of fish populations and public angling is significantly influenced by the measures of soil practices on the land. Fishing is important to Iowans, and continued degradation in soil stewardship will result in a decline in the quality of this activity.

STATEMENT OF WILLIAM H. GREINER, EXECUTIVE VICE PRESIDENT, SOIL CONSERVATION SOCIETY OF AMERICA

NEEDED—A NEW NATIONAL COMMITMENT TO SOIL CONSERVATION AND LAND USE PROGRAMS

The United States has now entered the decade of the 80's and what this decade holds for this country as well as the world is uncertain. Many problems will confront this country and others as we move through this decade and succeeding decades.

New decades are fair game for those who want to look back or look forward and to assess and predict. In looking back the 1970's gave us what is sometimes referred to as an environmental revolution. There are other terms which have been given to this movement. The term "revolution" may be a bit strong because the 70's saw no radical overthrow of the nation's approach to environment and a replacement with another. Instead, the decade saw an awakening as to what this country was doing to the environment and a resolve on the part of the people to make their concerns felt in Congress, the White House and State Houses. As a result, there were many citizen environmental organizations created or those that were in existence expanded to new heights in membership, in lobbying ability and participation in government when other steps failed. Much was printed and said about the need for more adequate soil conservation and land use programs; however, in looking back, it is difficult to truthfully say that great accomplishments were made in these two areas because the United States for the past several years has witnessed a dramatic change in the use of its resources.

A case in point is the U.S. converting more than 3 million acres each year from agricultural to nonagricultural uses. We all recognize that soil and water resources must be protected for the future use and welfare of this country. This protection is necessary; not only for the production of food and fiber but to maintain a suitable and stable environment for present and future generations.

There has been a great deal of public attention in recent years given to the problem of soil conservation and land use. And in the midst of this increasing public attention, there is much debate over long-term food production capabilities of this country. There is little pessimism over the ability of the agricultural industry of this country to continue to produce food and fiber to meet domestic needs throughout the remainder of this century and contribute significantly to worldwide needs. However, on a regional basis, recent trends in farmland conversion point to a less optimistic future for agriculture. The continued conversion of valuable farmland has begun to weaken the infrastructure necessary to support certain forms of agriculture. In many areas certain specialty crop industries are threatened with collapse because of the conversion of unique or rare croplands. Land use pressures are thus causing regional impacts on agriculture that may not yet be felt on the national scale.

In addition to the changes in land use, this country is also losing land through the process of erosion, both from wind and water. These are the major forces affecting the loss of this resource and something must be done to reverse this trend. The purpose of this statement is to set forth some ideas on what is needed with regard to accelerating the soil conservation programs of this country and at the same time accomplishing the objective of having each acre of land used according to its capabilities.

Financing soil and water conservation programs

It has long been recognized that benefits from soil conservation practices and programs accrue to both the landowner and society in general. Therefore, the cost of conservation practices should be shared by the individual landowner and government. Soil conservation cost-sharing programs have existed for many years; however, they have been an on-again, off-again proposition. It is not known from one year to the next what level of federal funding will be available for cost-sharing, nor is it known how much technical assistance will be provided to landowners—assistance that is vital to planning and constructing conservation measures. The lack of adequate technical assistance and consistent funding makes it extremely difficult for a farmer or rancher to plan a program that will be in keeping with proper soil and water management. The Congress should adopt a policy whereby adequate and consistent financing will be available from one year to the next to provide sufficient funds for the installation of soil conservation measures.

Individual states must also be aware of the need for their financial involvement in soil conservation programs. Several states are now providing funds for conservation cost-sharing. Some make substantial amounts available; others are just beginning. State and local governments should be encouraged to appropriate funds to help landowners finance the installation of conservation measures. It is unreasonable to expect the individual landowner to assume the entire cost of these conservation measures, especially at this time when agricultural income is so uncertain and low in relation to other segments of our economy.

It must also be pointed out that the amount of money spent by the federal government on resource conservation programs has not been consistent with the national need. Furthermore, this expenditure, in real terms, has declined steadily over the years despite population increases and other trends that are beyond farmers' and ranchers' control. This trend must be reversed and a new national commitment initiated to adequately fund soil and water conservation programs on a continuing basis.

National, State and local objectives

There are many national objectives that are important to soil and water conservation programs. As an example, the United States Department of Agriculture (USDA) must not concentrate on remedying major problems to the exclusion of local priorities and concerns, nor should it ignore the importance of maintaining past accomplishments. There are many guiding principles in soil conservation and land use. Land use is clearly a dynamic phenomenon, an everchanging relationship between people and the natural landscape. While the land-related needs and wants of people are flexible, a number of fixed qualities constrain the ability of land to respond to changing preferences, demands, and use.

This situation gives rise to a set of principles that should guide any decision concerning the use of land and water resources. These are: (1) land and water are finite resources; (2) land has capabilities and limitations for a broad range of uses but is susceptible to deterioration unless used in harmony with its capabilities; (3) changes from productive uses, such as agriculture and forestry, to consumptive uses, such as urban development, are essentially irreversible; (4) land-related needs of both rural and urban people are interdependent; (5) the use of any one parcel of land affects the potential use of neighboring parcels; (6) ownership of land confers not only the right to use land but the obligation to use it responsibly; (7) the use of land is influenced by many governmental actions, not just by land use policies.

Fiscal incentives, trade commitments, taxation, public facilities, pollution control, and allocation of water and energy resources all influence how land is used and managed. What needs to be done? A number of actions are needed to promote the wise use and management of land and water resources. These include:

(1) Development of a total range of programs. A positive approach is needed to achieve prudent land use and soil conservation with methods approved and accepted by the public. Voluntary acceptance and participation in such efforts is desirable. Economic incentives and public education to enhance participation are essential. However, rules and regulations may be needed in certain areas to achieve a publicly acceptable soil conservation program.

(2) Improvement in the planning process. A broad cross-section of the public must recognize that we have land use and soil conservation problems of increasing frequency and magnitude that affect many aspects of our lives. Understanding the future implications is necessary because many land use decisions are essentially irreversible. The decisions may result in terminal impacts on natural resources. Understanding future implications is necessary when soil conservation

and management decisions are made regarding land and water resources. They have a broad range affect on the public. Where land has the potential for several resource uses, a sequence of uses should be considered to permit full utilization of available resources before terminal uses, such as urban and industrial developments, water impoundments, highways, etc., are reached. Planning must become an integral part of the decision-making process in private and public sectors. More effective methods must be developed to evolve a truly interdisciplinary approach to soil conservation and land use decision-making.

(3) Establishment of goals and priorities that respect natural resources. There is a great need to recognize the complexities of natural resource systems and the harmonic balance existing in ecosystems. Emphasis should be directed towards land use decision-making that respects these natural systems and the resource base itself.

(4) Decisions must be based on factual information. Land use decisions and soil conservation programs and their implementation should be based on an understanding of sound natural resource information. Programs to direct this information to decision-makers, landowners, and land use professionals are urgently needed. Adequate technical support and educational assistance for proper interpretation of natural resource data must be provided to landowners and operators as well as the data users.

(5) Definition of intergovernmental relationships and responsibilities. The agencies involved on the local, state, and federal levels in land use planning and management must develop and coordinate clear goals, policies, and programs that will serve as a general framework to carry out their planning activities and responsibilities. Federal agencies need to develop consistent planning and program criteria with simple, understandable guidelines. Where state or local policies or plans conflict with federal programs, the federal agencies need to develop clear statements outlining the national interest to justify actions. States must continue to strive for workable legal and administrative frameworks to guide and aid local soil conservation and land use programs.

(6) Involvement of the private sector. Better cooperation is needed between the public and private sectors relevant to soil conservation, natural resource management, and land use planning. Mutual understanding and support is essential for true acceptance and implementation of soil conservation and management techniques as well as concepts directed to wise land use.

(7) Improvement of public education. More effective educational methods are needed at all levels to teach natural resource management principles and to relate historical developments and trends to current situations and future needs. New and innovative educational methods are needed to instill in all citizens a sense of responsibility for the prudent use and management of soil and water resources. Citizen awareness of human needs for food, clothing, shelter, health, and recreation as related to soil, water, and other natural resources must be promoted. Educational institutions are strongly encouraged to develop and expand comprehensive programs that include natural resource curricula at the elementary, secondary, and college levels.

(8) Acceleration of research. Research is needed to evaluate natural resources and their interactions and to develop effective resource management standards based on scientific principles that can be used and interpreted by all. New knowledge and technology, developed by a strong and continuous research effort, will be essential as private and public decisions allocate land resources and manage these resources in response to constantly changing needs.

In closing, there is no justifiable argument regarding the need for treating our land more carefully and also using it more wisely. The United States, as well as other countries, have not been good stewards of their lands. We have been wasteful with our land resources and this trend must be stopped. As pointed out in this statement, it will take a commitment on the part of landowners as well as government at all levels. In addition, organizations and private citizens must share in this responsibility. However, to be successful, this effort must have leadership from the national level and this must come from the Congress of the United States as well as the White House. As previously pointed out, it is very difficult for the landowner to accept this responsibility with his or her own financial resources. The landowner must have help and a new commitment is vitally needed towards soil conservation and land use programs. It is hoped this commitment will be forthcoming early in the decade of the 1980's.

Statement of Kermit L. Miskell, Story City, and Elmer Brandt, Clarion, Iowa

These are a few ideas we would like to present.

County soil technicians are trained to work in the field of soil conservation practices, but seem to be overloaded with forms to fill out—"too much paperwork"—the paperwork must be simplified to the bare essentials. We must keep our personnel in the field more, and less office work.

The farms in the so called flatter region, "the richest agriculture region," are paying more taxes accordingly and are getting the least appropriated back for cost-share work, or work done, or to be done. The farms in this good agriculture area depend on tile, and while their tax money is spent elsewhere to put pasture ground into production—on these farms—production eventually will go down, as their main tile drainage systems deteriorate and are too costly to replace on an individual basis.

Tile is the best tool of soil conservation as it takes water through the ground and delivers almost clean water at the outlet. The tile slowly drains pot holes and readies the area for the next rain; if left full you would have sheet erosion from these farms.

Farms in central Iowa seem to be flat. The so called flat farms need work as the gentle slopes run sometimes as far as three miles. In previous years, farm land in central Iowa had more trees, buildings, and mainly fence rows. Fence rows acted as terraces slowing the water down as it came off of these so called "gentle slopes," most of the fences have been removed and water can go full force.

The storms come, ditches fill with silt, small gullies develop in the fields. The sun comes out and farmers smooth out the fields with their modern heavy equipment, ditches beside the road are cleaned—everything looks like before the storm. Top soil has disappeared, and how many years can this go on before this rich region of Iowa can go on like this? Soon, there will be no rich central Iowa.

We need technical help, and our tax money used in the flat area—or so called flat area.

This is written by two farmers, one farming—one retired. We were disappointed that no farmers gave testimony that we know of. Why not have a hearing so that farmers understand that they are invited and have a chance to testify.

Farmers that represent organizations cannot always say exactly what they would otherwise say in speaking for themselves.

[The following material was submitted by Hon. Forrest Schwengels, an Iowa State senator. See p. 143 for the oral testimony of Senator Schwengels.]

Other Agricultural Water Quality Efforts—Various State Cost-Share Programs[1]

IOWA SOIL 2000

The State of Iowa has taken leadership in developing an aggressive erosion control program, with the goals to maintain the productive capacity of our land and to improve the quality of our water.

Today, perhaps more than before, we are in a position to meet emerging needs because we have developed a blueprint for action which we call Iowa Soil 2000. Iowa is the only state in the nation to have publicly announced its goal to reduce erosion to non-depleting levels by the turn of the century. We want to be recognized as in a position to resolve problems versus being placed on the worry list and passively wait for federal appropriations to resolve our problem.

In an age where domestic issues of energy and inflation can overshadow the more basic issues of soil erosion and water quality, I believe we have been able to develop an informed public. As a legislator, that informed public is important. To many of you, as agency personnel, that informed public needs to be considered. We cannot plan and legislate in a vacuum and then expect a public to implement or even support programs which cost more tax dollars and restrict their rights as landowners. The basis for our success in developing and implementing soil conservation programs in Iowa is our conservation ethic. Some would call it a bread and butter issue versus social responsibility. The average Iowa taxpayer is not a philanthropist. Public interest statements urging water pollution control, protecting fish, and the environment can't compete with issues which affect the individual's continued ability to pay the mortage. As a result, we have talked about erosion control as an element in continued agricultural productivity. Eight of ten Iowans receive their income directly or indirectly from agriculture. Our agricultural productivity is our major state source of income, as 90 percent of the agricultural products produced in Iowa are shipped out of the state with nearly 30 percent of that amount going into international trade. By focusing on these bread and butter issues, the Iowa taxpayer can understand the importance of soil conservation and water quality, and has been willing to support it.

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[1] Presented by Senator Forrest Schwengels, Iowa General Assembly at the National Water Quality Management Conference, June 4–6, 1980, Peachtree Plaza, Atlanta, Ga.

Between our 1979 and 1980 sessions of the legislature, an interim study committee of ten senators and ten representatives met with people from all over Iowa to discuss our resource inventory facts and to allow them to suggest perceived needs in erosion control efforts. We have found that people support programs which they become involved in.

Due to a very fortunate set of circumstances, we started our soil conservation program deliberations based on a good structure. Our soil conservation district program in Iowa is 40 years old this year. The major focus of the 500 locally elected district commissioners in our 100 soil conservation districts was primarily agricultural erosion until the last decade. However, a 1970 conservation needs inventory revealed that the fertile loess soils in Iowa were rapidly being depleted and something needed to be done to reduce erosion. Correspondingly, in 1971 Iowa became the first state in the nation to establish a soil loss limits law and still remains as the only state to have established a soil loss limit standard for its nearly 1,500 soil types. The law provides that if agricultural or urban sediment losses in tons per acre per year exceed the established limit, and upon complaint filed by the adjacent property owner, the soil conservation district can issue an administrative order to cause landowner compliance. Failure to respond to the administrative order can cause a district court order to be issued and penalties imposed on the landowner. At first, fears that every soil conservation district commissioner would resign, rather than force their neighbors to practice soil conservation, developed and passed. Our commissioners regarded this as a vote of confidence in them, as local community leaders, to resolve problems locally without a state enforcement agency. This is something when you consider that the commissioners donate their time and are reimbursed only for out-of-pocket expenses. Since then, over 500 administrative orders have been issued and most resolved before going to a court order. However, one case was appealed to the Iowa Supreme Court; and the constitutionality of the soil loss limits law was upheld.

In 1971 Iowa also enacted conservancy district legislation which enabled formation of local boards to develop water management plans in the state's six major river basins. This group was the structure which later provided the citizen involvement structure through which the state's nonpoint source pollution plan, as part of Section 208 of Public Law 92-500, was developed.

In 1973 Iowa became the first state to appreciate state cost-share funds for erosion control. To date we have invested $31,550,000 in this program. Ken Bruene, Iowa Department of Soil Conservation Representative, will discuss how this program has expanded and worked.

Following the general growth in environmental awareness in the mid-1970's, Iowa re-evaluated its soil erosion status through a county-by-county resource inventory in 1978. We found that increased tillage and agricultural production activities had accelerated soil erosion and water quality problems. This new information revealed that only one-third of Iowa cropland was adequately treated from a soil conservation standpoint and that two-thirds of our cropland, or 18,000,000 acres, was suffering from erosion at two to three times the rate at which the soil was being regenerated. This created a renewed cause for alarm. Although we had been aggressive in the past, we recognized that we would have to be resourceful and innovative in our approach to acceleration of our soil conservation program if we were to overcome erosion and water quality problems.

Again, the first focus was on telling the story and gaining public awareness and support for renewed soil conservation and water quality efforts. We were very fortunate to have received the help of the media through the Des Moines Register and Tribune Pulitzer Prize award-winning series "Environmental Crisis

Down on the Farm". We were fortunate to be able to utilize the USDA Resource Conservation Act grant funds to the Iowa Department of Soil Conservation to allow a forum to be held in each county to solicit citizen input on resource concerns. Through this process, over 8,000 Iowans rated their major concerns, among which erosion, water quality, and land use were ranked top priorities. Iowa's nonpoint source pollution planning process recommendations were formulated in 1979 and, combined with the RCA process, enabled a diverse cross section of our citizenry to get involved and become aware of the erosion problem.

A group of the state's top scientists, who serve our governor on a science advisory council, studied the soil erosion problem and concluded in a May 1979 report to Governor Ray that soil erosion was Iowa's most serious environmental and natural resource problem. They recommended that an erosion control master plan be developed.

On May 1, 1979, I and 32 other senators introduced a resolution calling for the establishment of an interim legislative study committee to be authorized to hold hearings on soil conservation and to propose legislation for accelerating Iowa's soil conservation program.

We have seen a lot of action since then. The effort was at times frustrating and challenging. When we considered the cost estimates for the program, which were set at $6,000,000,000, and that if we were to do the job in 25 years and the past year's accomplishments were only one-eighteenth of what should have been done as that year's share, we realized we needed to be resourceful and innovative. We knew it was not to be a process of taking another inventory, arriving at the same conclusion, and continuing the same kind of programs we had done in the past. After our study committee had held five field hearings, we focused on a range of what we considered as workable alternatives, wrote a policy statement, and established 5, 10, 15 and 20-year goals, We saw that our citizenry was receptive to new methods and that there had been a change in attitude on what could be expected of private landowners. Our study became a public policy issue. We received statements from all major farm organizations and saw many pass resolutions and develop policy statements on agricultural land preservation and soil conservation. We saw challenges by the "old guard" who opposed restrictions on private rights or feared any efforts, such as cost-share or increased technical personnel, which might mean increased taxes. We were even surprised by some groups who propose to service agricultural needs, yet viewed accelerated soil conservation programs by the state as a threat or loss of authority.

When the legislature convened in January 1980, potential soil conservation legislation, which by then was known as Iowa Soil 2000, was said by many to be the most important legislation to be considered and was supported as "must do" legislation in the Governor's Condition of the State message. At that time the real pay-off came when the Governor recommended an additional $3,000,000 supplement to the state's current $5,000,000 cost-share appropriation. In early phases of the session the legislative budget committee not only supported this increase, but at one time had added another $1,000,000 to it. Unfortunately, due to the hard dollar economic picture in the state, we were eventually forced to reduce the total increase to $1,000,000; but that was quite an increase in comparison to some state programs that were actually decreased in program levels from the previous year.

In 1979 Iowa invested $500,000 in the first-in-the-nation state conservation tillage incentive program called Iowa Till. Farmers in demonstration watersheds in seven counties have contracted to maintain crop residue and attain at least 50 percent surface cover as an erosion control and water management practice for the next five years. We hope to show farmers through experience in large acreage tracts that soil losses can be reduced as research plots indicate. We hope this can be a cost-effective erosion control alternative to terraces and other expensive structural land treatment practices. If not completely successful in bringing soil losses to acceptable levels, residue management can reduce soil losses until permanent soil conservation practices can be installed and appears to be one of the fastest ways to reduce nonpoint source pollution runoff and soil erosion. In 1979 Iowa invested another $500,000 to initiate a wind erosion control program.

Basic features of the Iowa Soil 2000 legislation include:

(1) The conservation folder concept as a contacting device to increase landowner awareness of potential problems and eventual development of a farm unit soil conservation plan to guide erosion control efforts.

(2) Options for new cost-share incentives for summer construction and group landowner activity.

(3) Authority for commissioners to act on their own if they believe excessive soil erosion is occurring.

(4) Making cost-share payments conditional on landowner willingness to enter into a conservation agreement.

(5) Recording of state cost-share permanent practices in the soil conservation district office.

(6) Reducing the percent of cost-share available for permanent practice installation on lands under "conservation cover" as reported by cost-share applicants at the time of requests for assistance.

(7) Conditioning approval of a building or grading permit on a soil conservation district approved erosion control plan in developing areas which come under the definition of "land disturbing activities".

(8) Directing that the Department of Soil Conservation initiate state interagency review process to coordinate water flow and reduce accelerated erosion.

(9) To direct the State Soil Conservation Committee of Iowa to initiate a periodic review of soil loss limits to assure that they are reasonable and acceptable.

(10) To direct soil conservation districts to assist local school districts in providing soil conservation education.

Conservancy district legislation was amended to decentralize the governing authority, allowing conservancy districts desiring a more locally administered program to elect a board in lieu of the State Soil Conservation Committee. The amendments also enabled soil conservation district subdistricts to be formed to cooperate with conservancy districts in carrying out watershed protection and flood prevention programs.

The legislature also provided tort claims protection to relieve soil conservation district commissioners from personal liability when acting within the scope of responsibilities provided in Iowa Code. As a result, soil conservation district commissioners are considered as agents of the state when carrying out soil loss limit inspections and other resource management responsibilities.

In conclusion, I can speak for the need for state government to invest in something we know needs attention. Iowans have realized that we have been living beyond our means in resource management and are concerned with it in a manner similar to domestic inflation and energy issues.

I have cause to feel optimistic about our future. Soil conservation and water quality are not glamorous issues which are popular to fund, nor are the results immediate. They are not issues of social unrest or misery which seem to be the focus of news media. Yet, they are the issues which will sustain our economic well being and the quality of our environment. I am pleased to say that in Iowa our effort has not been unnecessarily complex. We have chosen not to be passive and wait for a federal appropriation or mandate to solve the problem. I believe that we have acted with rationale based on experience, versus treating this as a crisis solution.

I am pleased to have been able to be with you.

SENATE CONCURRENT RESOLUTION 22

Whereas, the soil loss by erosion in this state is critical in that two hundred million tons of soil is lost each year; and

Whereas, the resources available for cost-sharing of soil conservation practices are inadequate to halt this continuing erosion; and

Whereas, there is a need for new and innovative ideas to increase voluntary soil conservation practices and to promote soil conservation by methods of tillage; *Now Therefore*,

Be It Resolved by the Senate, the House Concurring, That the legislative council is authorized to create a study committee as provided by law composed by members of the senate and the house of representatives of both political parties to conduct a study during the 1979 legislative interim on the subject of soil conservation; and

Be It Further Resolved, That the study committee be authorized to hold hearings in each of the conservancy districts and at the capitol and propose legislation accompanied by bill drafts to encourage soil conservation in Iowa.

SENATE CONCURRENT RESOLUTION 113

Whereas, erosion of soil from cropland in Iowa is occurring at an estimated annual rate of nearly ten tons per acre, and continuation of this rate of soil loss will ultimately be economically disastrous to Iowa agriculture; and

Whereas, hearings held around the state during the fall of 1979, by the Soil Conservation Laws Joint Subcommittee of the Agriculture and the Natural Resources Committees of the Senate and House of Representatives demonstrated considerable support among farmers and others for greater efforts to end excessive soil erosion, both to preserve the fertility of Iowa cropland and to reduce pollution of the state's rivers and lakes; and

Whereas, it should be the policy of the State of Iowa to provide soil conservation education at all levels, to provide incentives for good soil management, and to provide needed technical assistance, all with the objective of bringing erosion of topsoil from all land within nondepleting levels by the year 2000; and

Whereas, the objective just described may be referred to as the "Iowa Soil 2000" goal; *Now Therefore,*

Be it Resolved by the Senate, the House Concurring, That the General Assembly endorses the Iowa Soil 2000 goal and adopts, as guidelines against which pertinent legislation should be evaluated, the following series of intermediate objectives as steps toward achievement of the Iowa Soil 2000 goal:

A. Five-year objectives

1. To accelerate the availability of soil survey mapping data.
2. To provide each farm unit with a conservation folder by 1985.
3. To control erosion of the most fragile soils, which under present agricultural use and management will be depleted in 20 years.
4. To reduce excessive soil erosion on all agricultural lands by 40%.
5. To control nonpoint source pollution in at least twelve high priority watersheds, based on the Iowa agricultural nonpoint source pollution plan.

B. Ten-year objectives

1. To require each landowner or operator to keep his or her conservation folder current with computed soil loss rates provided by the local soil conservation district.
2. To control erosion on soil which under present agricultural use and management will be depleted in 40 years.
3. To reduce excessive soil erosion on all agricultural lands by an additional 40%.
4. To control nonpoint source pollution in at least an additional twenty-four high priority watersheds, based on the Iowa agricultural nonpoint source pollution plan.

C. Fifteen-year objectives

1. To control erosion on all agricultural land at a nondepleting level.
2. To control nonpoint source pollution in at least an additional fifty high priority watersheds, based on the Iowa agricultural nonpoint source pollution plan.

D. Twenty-year objectives

1. To maintain a nondepleting level of soil loss on agricultural land and control sediment production on all Iowa land.
2. To continue to develop and install cost effective soil conservation practices so that soil erosion is held at a nondepleting level.
3. To control nonpoint source pollution in all watersheds, based on the agricultural nonpoint pollution plan.

[House File 2461]

An Act relating to tort liability of regional boards of library trustees, soil conservation districts and their officers, employees, and agents

Be it enacted by the General Assembly of the State of Iowa:

SECTION. 1. Section twenty-five A point two (25A.2), subsection one (1), Code 1979, is amended to read as follows:

1. "State agency" includes all executive departments, agencies, boards, bureaus, and commissions of the state of Iowa, and corporations whose primary function is to act as, and while acting as, instrumentalities or agencies of the state of Iowa, whether or not authorized to sue and be sued in their own names. This definition shall not be construed to include any contractor with the State of Iowa. *Soil conservation districts as defined in section four hundred sixty-seven*

A point three (467A.3), subsection one (1), of the Code, and regional boards of library trustees as defined in section three hundred three B (303B) of the Code, are state agencies for purposes of this chapter.

SEC. 2. Section six hundred thirteen A point one (613A.1), subsection one (1), Code 1979, is amended to read as follows:

1. "Municipality" means city, county, township, school district, and any other unit of local government *except a soil conservation district as defined in section four hundred sixty-seven A point three (467A.3), subsection one (1), of the Code.*

WILLIAM H. HARBOR,
Speaker of the House.
TERRY E. BRANSTAD,
President of the Senate.

I hereby certify that this bill originated in the House and is known as House File 2461, Sixty-eighth General Assembly.

BRUCE GRAHAM,
Assistant Chief Clerk of the House.

Approved ———, 1980.
ROBERT D. RAY,
Governor.

[House File 2561]

An Act relating to the powers and duties of soil conservation districts and soil conservation district commissioners, and amending the statutes relating to establishment of soil and water conservation practices and to duties of the owners and operators of agricultural land and of landowners generally with respect to conservation of soil resources, and prescribing a penalty for knowingly making a false statement of material facts or falsely denying knowledge of material facts on a cost sharing application

Be it enacted by the General Assembly of the State of Iowa:

SECTION 1. Section four hundred sixty-seven A point four (467A.4), subsection one (1), Code 1979, as amended by Acts of the Sixty-eighth General Assembly, 1980 Session, Senate File two thousand three hundred one (2301), section seventy-one (71), is amended to read as follows:

1. There is hereby established to serve as an agency of the state and to perform the functions conferred upon it in this chapter, the department of soil conservation. The department shall be administered in accordance with the policies of the state soil conservation committee, which shall *approve administrative rules proposed by the department before the rules are promulgated pursuant to chapter seventeen A (17A) of the Code. The state soil conservation committee shall* consist of a chairperson and twelve members. The following shall serve as ex officio nonvoting members of the committee: The director of the state agricultural extension service, or the director's designee, the secretary of agriculture, or the secretary's designee, the director of the state conservation commission or the director's designee, and the director of the Iowa natural resources council or the director's designee. Eight voting members shall be appointed by the governor subject to confirmation by the senate. Six of the appointive members shall be persons engaged in actual farming operations, one of whom shall be a resident of each of the six conservancy districts established by section 467D.3, and no more than one of whom shall be a resident of any one county. The seventh and eighth appointive members shall be chosen by the governor from the state at large with one appointed to be a representative of cities and one appointed to be a representative of the mining industry. The committee may invite the secretary of agriculture of the United States to appoint one person to serve with the abovementioned members, and the president of the Iowa county engineers association may designate a member of the association to serve in the same manner, but these persons shall have no vote and shall serve in an advisory capacity only. The director of the department of environmental quality shall be an ex officio non voting member. The committee shall adopt a seal, which seal shall be judicially noticed, and may perform acts, hold public hearings, and promulgate rules as provided in chapter 17A as necessary for the execution of its functions under this chapter.

SEC. 2. Section four hundred sixty-seven A point four (467A.4), subsection four (4), Code 1979, is amended by adding the following new paragraph:

New paragraph. To establish and maintain an interagency coordinating committee for the purpose of preparing and disseminating recommendations for coordinated efforts to deal with water and soil management problems, including but not necessarily limited to the flow of water into, across and from public roads and roadside ditches, that are the common concern of two or more of the agencies or groups represented on the committee. The committee shall meet at the call of the chairperson or upon the written request of any three members, to execute the functions assigned it by this section. The coordinating committee shall consist of:

(1) The director of the department of soil conservation or the director's designee, who shall act as chairperson of the coordinating committee.

(2) A representative of the state department of agriculture, designated by the secretary of agriculture.

(3) A representative of the department of environmental quality, designated by the executive director of that department.

(4) A representative of the department of transportation, designated by the director of that department.

(5) A representative of the Iowa natural resources council, designated by the council's director.

(6) A representative of county boards of supervisors, designated by the county supervisors association affiliated with the Iowa state association of counties.

(7) A representative of county engineers, designated by the county engineers association affiliated with the Iowa state association of counties.

(8) A representative of soil conservation district commissioners, designated by the Iowa association of soil conservation district commissioners.

(9) A member of the state soil conservation committee.

(10) The state conservationist of the United States soil conservation service, or that officer's designee.

SEC. 3. Section four hundred sixty-seven A point seven (467A.7), subsection sixteen (16), Code 1979, is amended to read as follows:

16. The commissioners shall, as a condition for the receipt of any cost-share *state cost-sharing* funds for permanent soil conservation practices, require the landowner *owner of the land on which the practices are to be established* to covenant *and file, in the office of the soil conservation district of the county in which the land is located*, an agreement *identifying the particular lands upon which the practices for which state cost-sharing funds are to be received will be established and providing* that if the project is removed, altered, or modified so as to lessen its effectiveness without the consent of the *commissioners, obtained in advance and based on guidelines drawn up by the* state soil conservation committee, for a period of ten *twenty* years after the date of receiving payment. the landowner *owner of the land on which the practices have been so removed, altered or modified* shall refund to the department of soil conservation the public *state cost-sharing* funds used for the project, *or for the portion of the project which has been removed, altered or modified so as to lessen its effectiveness.* Such refunds *shall be computed on a pro rata basis in accordance with guidelines drawn up by the state soil conservation committee in accordance with the age and anticipated remaining useful life of the project, and* shall be reallocated to the district from which they were refunded to be used for conservation cost sharing. It shall be the duty of the *The* commissioners to *shall* assist the state soil conservation committee in the enforcement of this subsection. *The agreement to refund shall not create a lien on the land, but shall be a charge personally against the owner of the land at the time of removal, alteration or modification which gives rise to the need for a refund. Each soil conservation district which has entered into agreements under this subsection shall file in the office of the county recorder a statement that there are in effect in that county certain agreements covenanted under this subsection which place upon owners of agricultural land the obligation to maintain permanent soil conservation practices established with public cost-sharing money, and that failure to do so may result in an obligation to refund a portion of the public cost-sharing money used to establish the practices. A seller of agricultural land with respect to which an agreement covenanted under this subsection is in effect, and who is not currently in violation of that agreement, shall upon request to the commissioners be furnished with a written statement that, as to the date of the statement, he seller has incurred no obligation to refund to the department of soil conservation the state cost-sharing funds obtained pursuant to the agreement.*

SEC. 4. Section four hundred sixty-seven A point seven (467A.7), Code 1979, is amended by adding the following new subsections:

New subsection. To enter into special funding agreements which, notwithstanding subsection four (4) of this section, provide for cost sharing up to sixty percent of the cost of a project including five or more contiguous farm units which have at least five hundred or more acres of farmland and which constitute at least seventy-five percent of the agricultural land lying within a watershed or subwatershed, where the owners jointly agree to a watershed conservation plan in conjunction with their respective farm unit soil conservation plans.

New subsection. To encourage local school districts to provide instruction in the importance of and in some of the basic methods of soil conservation, as a part of the course work relating to conservation of natural resources and environmental awareness required pursuant to section two hundred fifty-seven point twenty-five (257.25), subsections three (3) and four (4), of the Code, and to offer technical assistance to schools in developing such instructional programs.

New subsection. To make incentive payments to encourage summer construction of permanent soil and water conservation practices, provided that the commissioners of a soil conservation district shall not use state cost-sharing funds to pay such incentives in any fiscal year when requests which seek cost sharing for eligible permanent soil and water conservation practices, but which do not seek incentive payments under this subsection, are sufficient to use all of the state cost-sharing funds made available to the district for that year. Incentive payments made under this subsection may, notwithstanding subsection four (4) of this section, provide for cost sharing up to sixty percent of the cost of establishing any permanent soil and water conservation practice where the establishment of that practice involves a construction project which begins after June first but before August fifteenth of any calendar year. Incentive payments under this subsection may also include, or may be limited to a pro rata amount, in accordance with rules of the department, to compensate for production loss on the area disturbed for construction of practices.

SEC. 5. Section four hundred sixty-seven A point forty-two (467A.42), unnumbered paragraph one (1), Code 1979, is amended to read as follows:

In addition to the definitions established by section 467A.3, as used in sections 467A.43 to 467A.53 *and sections ten (10) through fifteen (15) of this Act*, unless the context otherwise requires:

SEC. 6. Section four hundred sixty-seven A point forty-two (467A.42), Code 1979, is amended by adding the following new subsections:

New subsection. "Agricultural land" has the meaning assigned that term by section one hundred seventy-two C point one (172C.1) of the Code.

New subsection. "Farm unit" means a single contiguous tract of agricultural land, or two or more adjacent tracts of agricultural land, located within a single soil conservation district, upon which farming operations are being conducted by a person who owns or is purchasing or renting all of such land, or by his or her tenant or tenants. If a landowner has multiple farm tenants, the land on which farming operations are being conducted by each tenant shall constitute a separate farm unit. This definition does not prohibit land which is within a single soil conservation district and is owned or being purchased by the same person, or is being rented by the same tenant, from being treated as two or more farm units if the commissioners of the soil conservation district deem it preferable to do so.

New subsection. "Conservation folder" means compiled information concerning the topography, soil composition, natural or artificial drainage characteristics and other pertinent factors concerning a particular farm unit, which are necessary to the preparation of a sound and equitable conservation agreement for that farm unit. The specific items to be contained in a conservation folder shall be prescribed by administrative rules of the department of soil conservation. The department shall provide by rule that an updated farm plan prepared for a particular farm unit within ten years prior to the effective date of this subsection shall be considered an adequate replacement for the conservation folder for that farm unit.

New subsection. "Farm unit soil conservation plan" means a plan jointly developed by the owner and, if appropriate, the operator of a farm unit and the commissioners of the soil conservation district within which that farm unit is located, based on the conservation folder for that farm unit and identifying those permanent soil and water conservation practices and temporary soil and water conservation practices the use of which may be expected to prevent soil loss by erosion from that farm unit in excess of the applicable soil loss limit or limits. The plan shall if practicable identify alternative practices by which this objective may be attained.

New subsection. "Conservation agreement" means a commitment by the owner or operator of a farm unit to implement a farm unit soil conservation plan or, with the approval of the commissioners of the soil conservation district within which the farm unit is located, a portion of a farm unit soil conservation plan. The commitment shall be conditioned on the furnishing by the soil conservation district of such technical or planning assistance in the establishment of, and cost-sharing or other financial assistance for establishment and maintenance of the soil and water conservation practices necessary to implement the plan, or a portion of the plan.

Sec. 7. Section four hundred sixty-seven A point forty-three (467A.43), Code 1979, is amended to read as follows:

467A.43 DUTY OF PROPERTY OWNERS. To conserve the fertility, general usefulness, and value of the soil and soil resources of this state, and to prevent the injurious effects of soil erosion, it is hereby made the duty of the owners of real property in this state to establish and maintain soil and water conservation practices or erosion control practices, as required by the regulations of the commissioners of the respective soil conservation districts. *As used in this section, "owners of real property in this state" includes each state government agency, each political subdivision of the state and each agency of such a political subdivision which has under its control publicly-owned land, including but not limited to agricultural land, forests, parks, the grounds of state educational, penal and human service institutions, public highways, roads and streets, and other public rights-of-way.*

Sec. 8. Section four hundred sixty-seven A point forty-four (467A.44), unnumbered paragraph one (1), Code 1979, is amended to read as follows:

The commissioners of each soil conservation district shall, with approval of and within time limits set by administrative order of the state soil conservation committee, adopt such reasonable regulations as are deemed necessary to establish a soil loss limit or limits for the district and provide for the implementation of the limit or limits, and may subsequently amend or repeal their regulations as they deem necessary. *The state soil conservation committee shall review the soil loss limit regulations adopted by the soil conservation districts at least once every five years, and shall recommend any changes in the regulations of any soil conservation district which the state committee deems necessary to assure that the district's soil loss limits are reasonable and attainable.* The commissioners may:

Sec. 9. Section four hundred sixty-seven A point forty-eight (467A.48), Code 1979, as amended by Acts of the Sixty-eighth General Assembly, 1979 Session, chapter one hundred fifteen (115), section one (1), is amended to read as follows:

467A.48 APPLICATION FOR PUBLIC COST-SHARING FUNDS. No owner or occupant of land in this state shall be required to establish any new permanent or temporary soil and water conservation practice unless public or other cost-sharing funds have been specifically approved for such land and actually made available to the owner or occupant in an amount equal to at least seventy-five percent of the cost of any permanent soil and water conservation practice or an amount set by the state soil conservation committee for any temporary soil and water conservation practice, *except as otherwise provided by law with respect to land classified as agricultural land under conservation cover.* The state soil conservation committee shall review these requirements at least once each year, and may authorize soil conservation district commissioners to make the mandatory establishment of any specified soil and water conservation practice in any particular case conditional on a higher proportion of public cost-sharing than is required by this section. When the commissioners have been so authorized, they shall, in determining the amount of cost-sharing for establishment of a specified soil and water conservation practice to comply with an administrative order issued pursuant to section 467A.47, consider the extent to which the practice will contribute benefits to the public in relation to the benefits that will accrue to the individual owner or occupant of the land on which the practice is to be established. Evidence that an application for public or other cost-sharing funds, from a source or sources having authority to pay a portion of the cost of work needed to comply with an administrative order issued pursuant to section 467A.47, has been submitted to the proper officer or agency shall constitute commencement of such work within the meaning of sections 467A.43 to 467A.53. Upon receiving evidence of the submission of such application, the commissioners shall forward to the officer or agency to which the application was made a written request to receive notification of the disposition of such application. When notified of the approval of such application, the commissioners shall issue to the same parties who received the original administrative order, or their successors in interest, a supplementary order, to be delivered in the same manner is provided by sections 467A.43 to 467A.53 for delivery of original administrative orders. The supplementary order shall state a time, not more than six months after approval of the application for public cost-sharing funds, by which the work needed to comply with the original administrative order shall actually be commenced, and a time thereafter when such work is to be satisfactorily completed. If feasible, that time shall be within one year after the date of the supplementary order, but the owner of land on which a soil and water conservation practice is being established under this section shall not be required to incur a cost therefor in any one calendar year which exceeds ten dollars per acre for each acre of land belonging to that owner and located in the county containing the land on which the required practice is being established or in counties contiguous thereto.

Sec. 10. Chapter four hundred sixty-seven A (467A), Code 1979, is amended by adding the following new section:

New section. Discretionary inspection by commissioners—actions upon certain findings.

1. In addition to the authority granted by section four hundred sixty-seven A point forty-seven (467A.47) of the Code, the commissioners of any soil conservation district may inspect or cause to be inspected any land within the district on which they have reasonable grounds to believe that soil erosion is occurring in excess of the limits established by the district's soil erosion control regulations. If the commissioners find from an inspection conducted under authority of either section four hundred sixty-seven A point forty-seven (467A.47) of the Code of this section that soil erosion is occurring on that land in excess of the applicable soil loss limits established by the district's soil erosion control regulations, they shall send notice of that finding to the landowner or landowners of record, and to the occupant of the land if known to the commissioners. The notice shall describe the land affected and shall state as nearly as possible the extent to which soil erosion from that land exceeds the applicable soil loss limits.

a. If the commissioners find that the excessive erosion described in the notice is not causing sediment damage to property owned or occupied by any person other than the owner or occupant of the land on which the excessive soil erosion is occurring, and that the rate of excessive erosion is less than twice the applicable soil loss limit, the notice required by this subsection shall include or be accompanied by information regarding financial or other assistance which the commissioners are able to make available to the owner or occupant of the land to aid in achieving compliance with the applicable soil loss limits.

b. If the commissioners find that the excessive soil erosion described in the notice is not causing sediment damage to property owned or occupied by any person other than the owner or occupant of the land on which it is occurring, but that the erosion is occurring at a rate equal to or greater than twice the applicable soil loss limit, the notice shall so state, shall include or be accompanied by the information required by paragraph a of this subsection, and shall be delivered by personal service or by restricted certified mail to each of the persons to whom the notice is directed. A notice given under this paragraph shall also include or be accompanied by information explaining the provisions of subsection two (2) of this section.

2. Beginning January 1, 1985, or five years after the completion of the conservation folder for a particular farm unit pursuant to section ten (10) of this Act, whichever date is later, the commissioners of the soil conservation district in which that farm unit is located may petition the district court for an appropriate order with respect to that farm unit if its owner or occupant has been sent a notice by the commissioners under subsection one (1), paragraph b of this section for three or more consecutive years. The commissioners' petition shall seek a court order which states a time not more than six months after the date of the order when the owner or occupant must commence, and a time when he or she must complete the steps necessary to comply with the order. The time allowed to complete the establishment of any temporary soil and water conservation practice employed to comply or advance toward compliance with the court's order shall be not more than one year after the date of that order, and the time allowed to complete the establishment of any permanent soil and water conservation practice employed to comply with the court's order shall be not more than five years after the date of that order. The provisions of section four hundred sixty-seven A point forty-eight (467A.48) of the Code shall apply to a

court order issued under this subsection. The steps required of the farm unit owner or operator by the court order shall be those which are necessary to do one of the following:

a. Bring the farm unit which is the subject of the order into compliance with its farm unit soil conservation plan, if such a plan had been agreed upon prior to the time the commissioners petitioned for the order.

b. Bring the farm unit which is the subject of the order into compliance with a plan developed for that farm unit by the commissioners, in accordance with guidelines established by the department of soil conservation, and presented to the court as a part of the commissioners' petition, if a farm unit soil conservation plan has not previously been agreed upon for that farm unit. A plan presented to the court by the commissioners under this paragraph shall specify as many alternative approved soil and water conservation practices as feasible, among which the owner or occupant of the farm unit may chose in taking the steps necessary to comply with the court's order.

c. Bring the farm unit which is the subject of the order into compliance with a soil consevation plan developed by the owner or occupant of that farm unit as an alternative to the proposed soil conservation plan developed by the commissioners, if the owner or occupant so petitions the court and the court finds that the owner or occupant's plan will bring the farm unit into conformity with the applicable soil loss limits of the district.

SEC. 11. Chapter four hundred sixty-seven A (467A), Code 1979, is amended by adding the following new section:

New section. Duties of Commissioners and of owners and occupants of agricultural land—restrictions on use of cost-sharing funds.

1. The commissioners of each soil conservation district shall seek to implement or to assist in implementing the following requirements:

a. Each farm unit shall be furnished a conservation folder by the department of soil conservation acting through the soil conservation district in which the farm unit is located, not later than January 1, 1985, or as soon thereafter as adequate funding is available to permit completion of a conservation folder for every farm unit in the state. The department shall provide by rule that an updated farm plan prepared for a particular farm unit within ten years prior to the effective date of this subsection shall be considered an adequate replacement for the conservation folder for that farm unit. Upon completion of the conservation folder for a particular farm unit, the district shall send the owner of that farm unit, and also the operator of the farm unit if known by the commissioners to be other than the owner, a letter offering that person or those persons a copy of the folder. The district shall keep a record of the date the folder is completed and the letter is sent. The folder shall be updated from time to time by the district as it deems necessary.

b. The commissioners of each soil conservation district shall complete preparation of a farm unit soil conservation plan for each farm unit within the district, not later than January 1, 1985 or five years after completion of the conservation folder for that farm unit, whichever date is later, or as soon thereafter as adequate funding is available to permit compliance with this requirement. The commissioners shall make every reasonable effort to consult with the owner and, if appropriate, with the operator of that farm unit, and to prepare the plan in a form which is acceptable to that person or those persons. The plan shall be drawn up and completed without expense to the owner or operator of the farm unit, except that the owner or operator shall not be reimbursed for the value of his or her own time devoted to participation in the preparation of the plan. If the commissioners' plan is unacceptable to the owner or operator of the farm unit, that person or those persons may prepare an alternative farm unit soil conservation plan identifying permanent or temporary soil and water conservation practices which may be expected to achieve compliance with the soil loss limit or limits applicable to that farm unit, and submit that plan to the soil conservation district commissioners for their review.

c. Within one year after completion of a farm unit soil conservation plan for a particular farm unit which is acceptable both to the commissioners of the soil conservation district within which the farm unit is located and to the owner and, if appropriate, to the operator of that farm unit, the commissioners shall offer to enter into a soil conservation agreement with the owner, and also with the operator if appropriate, based on the mutually acceptable farm unit soil conservation plan.

2. State cost-sharing funds shall not be made available for use on a farm unit with respect to which no conservation agreement is in effect by January 1, 1986 or one year after the completion of the farm unit soil conservation plan for that farm unit by the soil conservation district, whichever date is later. The restriction imposed by this subsection shall not apply to any farm unit with respect to which an administrative order or a court order to comply with applicable soil loss limits has been issued as provided by this chapter.

SEC. 12. Chapter four hundred sixty-seven A (467A), Code 1979, is amended by adding the following new section:

New section. Right of Purchaser of agricultural land to obtain information. A prospective purchaser of an interest in agricultural land located in this state is entitled to obtain from the seller, or from the office of the soil conservation district in which the land is located, a copy of the most recently updated conservation folder and of any farm unit soil conservation plan, developed pursuant to section eleven (11), subsection one (1), paragraph b of this Act, which are applicable to the agricultural land proposed to be purchased. A prospective purchaser of an interest in agricultural land located in this state shall be entitled to obtain additional copies of either or both of the documents referred to in this subsection from the office of the soil conservation district in which the land is located, promptly upon request, at a fee not to exceed the cost of reproducing them. Each person who identifies himself or herself to the commissioners or staff of a soil conservation district as a prospective purchaser of agricultural land in the district shall be given information, prepared in accordance with rules of the department of soil conservation, which clearly explains the provisions of section fourteen (14) of this Act.

SEC. 13. Chapter four hundred sixty-seven A (467A), Code 1979, is amended by adding the following new section:

New section. Erosion control plans required for certain projects.

1. When a land disturbing activity is to occur as a part of a project for which a permit is required by a political subdivision which has adopted a building code pursuant to chapter one hundred three A (103A) of the Code or zoning ordinances pursuant to chapter three hundred fifty-eight A (358A) or four hundred fourteen (414) of the Code, the required permit for the project causing the land disturbing activity shall not be issued unless there is on file with the permit issuing authority a soil erosion control plan which covers the proposed project and is approved by the soil conservation district commissioners.

2. For the purposes of this section, "land disturbing activity" means a land change such as the tilling, clearing, grading, excavating, transporting or filling of land which may result in soil erosion from water or wind and the movement of sediment and sediment related pollutants into the waters of the state or onto lands in the state but does not include the following:

a. Tilling, planting or harvesting of agricultural, horticultural or forest crops.

b. Preparation for single-family residences separately built unless in conjunction with multiple construction in subdivision development.

c. Minor activities such as home gardens, landscaping, repairs and maintenance work.

d. Surface or deep mining.

e. Installation of public utility lines and connections, fence posts, sign posts, telephone poles, electric poles and other kinds of posts or poles.

f. Septic tanks and drainage fields unless they are to serve a building whose construction is a land disturbing activity.

g. Construction and repair of the tracks, right-of-way, bridges, communication facilities and other related structures of a railroad.

h. Emergency work to protect life or property.

i. Disturbed land areas of less than ten thousand square feet unless a political subdivision by ordinance establishes a smaller exception or establishes conditions for this exception.

j. The construction, relocation, alteration or maintenance of public roads.

3. If the permit issuing authority determines that a land disturbing activity is not being conducted in compliance with the soil erosion control plan, the permit issuing authority shall file a written and signed complaint with the soil conservation district commissioners. The complaint shall have the same effect and validity as a complaint filed by an owner or occupant of land being damaged by sediment pusuant to section four hundred sixty-seven A point forty-seven (467A.47) of the Code. The soil conservation district commissioners may issue an administrative order as provided in that section to the person conducting the land disturbing activity.

SEC. 14. Chapter four hundred sixty-seven A (467A), Code 1979, is amended by adding the following new section:

New section. Cost sharing for certain lands restricted.

1. It is the intent of this Act that, effective January 1, 1981, each tract of agricultural land which has not been plowed or used for growing row crops at any time within fifteen years prior to that date, shall for purposes of this section be considered classified as agricultural land under conservation cover. If any tract of land so classified is thereafter plowed or used for growing row crops, the commissioners of the soil conservation district in which the land is located shall not approve use of state cost-sharing funds for establishing permanent or temporary soil and water conservation practices on that tract of land in an amount greater than one-half the amount of cost-sharing funds which would be available for that land if it were not considered classified as agricultural land under conservation cover. The restriction imposed by this section shall apply even if an administrative order or court order has been issued requiring establishment of soil and water conservation practices on that land. The commissioners may waive the restriction imposed by this section if they determine in advance that the purpose of plowing or row cropping land classified as land under conservation cover is to revitalize permanent pasture and that the land will revert to permanent pasture within two years after it is plowed.

2. When receiving an application for state cost-sharing funds to pay a part of the cost of establishing a permanent or temporary soil and water conservation practice, the commissioners of the soil conservation district to which the application is submitted shall require the applicant to state in writing whether, to the best of the applicant's knowledge, the land on which the proposed practice will be established is land considered to be classified as agricultural land under conservation cover, as defined in subsection one (1) of this section. An applicant who knowingly makes a false statement of material facts or who falsely denies knowledge of material facts in completing the written statement required by this subsection commits a simple misdemeanor and, in addition to the penalty prescribed therefor by law, shall be required to repay to the department of soil conservation any cost-sharing funds made available to the applicant in reliance on the false statement or false denial.

SEC. 15. Chapter four hundred sixty-seven A (467A), Code 1979, is amended by adding the following new section:

New Section. Procedure when commissioner is complainant.

A soil conservation district commissioner who is an owner or occupant of land being damaged by sediment has the same right as any other person in like circumstances to file a complaint under section four hundred sixty-seven A point forty-seven (467A.47) of the Code, however a commissioner who is the complainant shall not vote on the question whether on the basis of the inspection made pursuant to the complaint, the commissioner shall issue an administrative order under section four hundred sixty-seven A point forty-seven (467A.47) of the Code.

SEC. 16. The first review of soil loss limit regulations which have been adopted by soil conservation districts in the state, conducted pursuant to section four hundred sixty-seven A point forty-four (467A.44) of the Code is amended by section eight (8) of this Act, shall be completed by the state soil conservation committee not later than December 31, 1980.

SEC. 17. As soon as reasonably possible after July 1, 1980, the commissioners of each soil conservation district in the state shall publish, in a newspaper of general circulation in the district, a notice advising owners and operators of agricultural land in the district of the provisions of section fourteen (14) of this Act. The notice shall be drawn up in accordance with rules of the department of soil conservation.

SEC. 18. Sections one (1) through seven (7) and nine (9) through fifteen (15) of this Act are effective January first following its enactment.

WILLIAM H. HARBOR,
Speaker of the House.
TERRY E. BRANSTAD,
President of the Senate.

I hereby certify that this bill originated in the House and is known as House File 2561, Sixty-eighth General Assembly.

BRUCE GRAHAM,
Assistant Chief Clerk of the House.

Approved ______, 1980.
ROBERT D. RAY,
Governor.

[Senate file 2357]

An Act relating to the composition and powers of conservancy district boards of directors, and adjusting the statutory boundaries of certain conservancy districts

Be it enacted by the General Assembly of the Staff of Iowa:

SECTION 1. Section four hundred sixty-seven D point four (467D.4), Code 1979, is amended to read as follows:

467D.4 GOVERNING BODY. The governing body of each conservancy district shall be *one of* the *following:*

1. The state soil conservation committee established by section 467A.4.

2. A board of not less than five nor more than nine members elected from conservancy district wards established under section four hundred sixty-seven D point five (467D.5) of the Code. Conservancy district board members so elected shall be reimbursed for travel and other actual and necessary expenses incurred in performing their duties. The member of the state soil conservation committee appointed from that conservancy district is an ex officio nonvoting member of the district board of directors.

SEC. 2. Section four hundred sixty-seven D point five (467D.5), Code 1979, is amended by striking the section and inserting in lieu thereof the following:

467D.5. ELECTION OF CONSERVANCY DISTRICT BOARD.

1. The state soil conservation committee acting in its capacity as a conservancy district board may propose division of a conservancy district, currently being governed by the state soil conservation committee under subsection one (1) of section four hundred sixty-seven D point four (467D.4) of the Code, into not less than five nor more than nine wards. Ward boundaries shall coincide with county boundaries, except that each ward shall lie entirely within the conservancy district of which it is a part. Each ward shall be composed of contiguous territory and shall be drawn with equality of population as an objective, insofar as that objective can reasonably be implemented while meeting the other requirements of this subsection.

2. The board of directors of a conservancy district which has been divided into wards under subsection one (1) of this section shall consist of one director from each ward so established, who shall be elected as provided by subsection three (3) of this section. Each director shall serve a term of three years beginning on the first day of January, following that director's election, which is not a Sunday or a holiday. When a proposal for establishment of wards in a conservancy district has been approved by the state soil conservation committee, the members of the first elected board shall be chosen as provided by subsection three (3) of this section except that the election shall be held not more than one hundred eighty days after the date of approval of the proposal for establishment of wards. The first elected board of directors shall take office on a day specified by the state soil conservation committee, which shall be not more than thirty days after election of the directors is completed. Upon taking office, the first elected board shall divide itself by lot into three classes as nearly equal in size as possible. Thereafter, successors to members of the first class shall be elected in the first succeeding calendar year, successors to members of the second class shall be elected in the second succeeding calendar year, and successors to members of the third class shall be elected in the third succeeding calendar year after the year in which the first elected board takes office.

3. Each member of a conservancy district board of directors shall be elected at a ward convention attended by delegates chosen by and from among the commissioners of the respective soil conservation districts located entirely or partially within that ward.

a. A convention shall be held for each ward not earlier than October first nor later than November thirtieth of each year in which a director is to be elected from that ward. Each ward convention shall be called and its location shall be determined by the board of directors of the conservancy district of which the ward is a part. The conventions shall be held within the boundaries of the respective wards, and may be held in conjunction with other meetings attended by soil conservation district commissioners where doing so will avoid or reduce expense for travel and for use of convention sites. Notice of the time, date and place of a ward convention shall be published by the conservancy district board of directors, at least thirty days prior to the convention date, in at least one newspaper of general circulation in the ward. The cost of publication shall be paid by the conservancy district.

b. The commissioners of each separate soil conservation district located entirely or partially within a conservancy district ward shall jointly cast a single, weighted vote for director of the conservancy district from that ward. The weight of the vote cast by the commissioners of each soil conservation district shall be based upon the ratio that the population of the soil conservation district, or portion of the district, bears to that of the entire ward. The population of each soil conservation district, or portion of a district, shall be certified by the department of soil conservation.

c. A candidate for election to the conservancy district board from a ward may file a statement of candidacy with the secretary of the conservancy district board at least ten days before the date of that ward's convention. The statement of candidacy shall state the candidate's name and address and shall indicate the soil conservation district within which the candidate resides. The list of candidates in each ward where an election is to occur shall be sent by ordinary mail to the commissioners of each soil conservation district located entirely or partially within the ward, immediately after the last day for filing. The filing of a statement of candidacy shall not be a prerequisite for election as a conservancy district director. A delegate to a ward convention shall not be bound by the soil conservation district commissioners to pledge his or her vote to any candidate prior to the date of the convention.

4. Any eligible elector as defined in section thirty-nine point three (39.3) of the code residing in a conservancy district ward is eligible to be elected to represent that ward on the board. A conservancy district board member need not be a soil conservation district commissioner, but the same individual may hold both offices concurrently. A person shall be elected to the board for no more than two consecutive terms. A vacancy is created when a member of the board removes his or her residence from the ward he or she was elected to represent. A vacancy shall be filled by appointment of the state soil conservation committee from a list of nominees submitted by the remaining members of the board, for the period until the next regular election under subsection three (3) of this section. At that election, a board member shall be elected for the remaining balance of the unexpired term.

Sec. 3. Section four hundred sixty-seven D point six (467D.6), Code 1979, is amended by adding the following new subsection:

New subsection. Establish, administer and direct various advisory committees as authorized by this chapter.

Sec. 4. Section four hundred sixty-seven D point seven (467D.7), Code 1979, is amended by striking the section and inserting in lieu thereof the following:

467D.7 ADMINISTRATION OF CONSERVANCY DISTRICTS BY STATE COMMITTEE.

1. When officially conducting the business of a conservancy district, the committee shall formally convene as the board of that conservancy district and shall keep minutes as such. The chairperson of the committee shall be the chairperson of the board of each conservancy district that it administers.

2. The state soil conservation committee, serving in its capacity as the board of a conservancy district, shall appoint a secretary and a treasurer for the conservancy district, and may appoint the same individual as secretary for two or more conservancy districts, or as the treasurer for two or more conservancy districts. However, a person shall not simultaneously serve as both a board secretary and a board treasurer, either for the same conservancy district or for different conservancy districts. A person appointed by the committee as secretary or treasurer of one or more conservancy districts, who is not otherwise employed by the state or any of its political subdivisions, shall receive compensation as the committee determines.

Sec. 5. Section four hundred sixty-seven D point eight (67D.8), Code 1979, is amended by striking the section and inserting in lieu thereof the following:

467D.8 ADMINISTRATION OF CONSERVANCY DISTRICTS BY ELECTED BOARD.

1. The board of each conservancy district which is administered by an elected board shall hold an annual meeting in January and shall meet at least once each quarter. The chairperson of the board shall schedule a special meeting within five days on the request of any two board members. An action of the board requires the affirmative votes of at least a majority of the elected members.

2. At the first meeting after election of the initial board, at the annual meeting in the following calendar year, and at each succeeding annual meeting, the board

shall organize by electing a chairperson and a vice-chairperson. Upon completing its organization, the initial elected board of a conservancy district shall so notify the state soil conservation committee in writing. The committee shall transfer the powers, duties and records of the board of that conservancy district to the elected board within thirty days after receiving the notice.

3. At its first meeting after election of the initial board pursuant to section two (2) of this Act, and at each succeeding annual meeting, the board of each conservancy district administered by an elected board shall appoint a secretary and a treasurer for the conservancy district. However, a person shall not simultaneously serve as both a board secretary and a board treasurer, either for the same conservancy district or for different conservancy districts. The secretary and treasurer may be either full-time or part-time employees of the conservancy district, at the board's discretion. The secretary and the treasurer shall each qualify by filing with the board, within ten days after being appointed, a bond in an amount designated by the board, but not less than one thousand dollars, conditioned on the faithful performance of their respective duties. The reasonable cost of the secretary's and the treasurer's bonds may be paid from the funds of the conservancy district.

Sec. 6. Section four hundred sixty-seven D point ten (467D.10), Code 1979, is amended by adding the following new subsection:

New subsection. Perform other duties as directed by the board.

Sec. 7. Section four hundred sixty-seven D point three (467D.3), subsection one (1), paragraph j, Code 1979, is amended to read as follows:

j. In Scott county:

Township north	Range east	Sections
80	1, 2, 3, 4, 5	All.
79	1	1 to 18 inclusive, 23, 24.
	2	1 to 30 inclusive, 33 to 36 inclusive.
	3, 4, 5	All.
78	2	1, 2, 10 to 17 inclusive [20-to-36-inclusive] *20 to 30 inclusive, 32 to 36 inclusive.*
	3, 4, 5	All.
77	2[,3]	[All] *1 to 5 inclusive, 8 to 17 inclusive, 20 to 36 inclusive.*
	3	*All.*

All territory within the corporate limits of the city of Bluegrass, as such limits existed on January 1, 1979, shall be within the northeast Iowa conservancy district, including the portion of such city not within any of the sections of land previously listed in this paragraph.

Sec. 8. Section four hundred sixty-seven D point three (467D.3), subsection one (1), paragraphs k and l, Code 1979, are amended by striking the paragraphs.

Sec. 9. Section four hundred sixty-seven D point three (467D.3), subsection two (2), unnumbered pargraph one (1), Code 1979, is amended to read as follows:

2. The Iowa-Cedar river conservancy district shall include all of Worth, Cerro Gordo, Butler, Franklin, Grundy, Benton, Tama, Johnson, *Muscatine*, and Iowa counties, those portions of Mitchell, Floyd, Chickasaw, Bremer, Black Hawk, Buchanan, Linn, Cedar, *and* Scott [, and Muscatine] counties not included in the northeast Iowa conservancy district, that portion of Jones county not so included in the northeast Iowa conservancy district and also all territory within the corporate limits of the city of Martelle in Jones county, as such limits existed on January 1, 1969, including that portion of such city within any of the sections of land listed in paragraph "h" of subsection 1 of this section, and the designated portions of each of the following counties:

Sec. 10. Section four hundred sixty-seven D point three (467D.3), subsection two (2), paragraph m, Code 1979, is amended to read as follows:
m. In Louisa county:

Township north	Range west	Sections
76	5	All.
75	*2*	*All.*
	3	[4 to 9 inclusive, 16 to 22 inclusive, 27 to 34 inclusive] *All.*
	4, 5	All.
74	1	All.
	2	[18, 19, 29 to 32 inclusive, 36] *5 to 9 inclusive, 16 to 22 inclusive, 26 to 36 inclusive.*
	3	[2 to 36 inclusive] *All.*
	4	1 to 30 inclusive, 32 to 36 inclusive.
	5	1 to 29 inclusive, 34.
73	1	All.
	2	[1, 4 to 36 inclusive] *All.*
	3	All.
	4	1 to 5 inclusive, 9 to 16 inclusive, 23 to 26 inclusive, 35, 36.

[All territory within the corporate limits of the city of Grandview, as such limits existed on January 1, 1969, shall be within the Iowa Cedar river conservancy district, including the portion of the city not within any of the sections of land listed in this paragraph.]

Sec. 11. Section four hundred sixty-seven D point three (467D.3), subsection five (5), unnumbered paragraph one (1), Code 1979, is amended to read as follows:

The southern Iowa conservancy district shall include all of Wayne, Decatur, Ringgold, Adams, Taylor, Cass, Montgomery, *Mills, Fremont,* and Page counties, those portions of Audubon and Monroe counties not included in the Des Moines river conservancy district, and the designated portions of each of the following counties:

Sec. 12. Section four hundred sixty-seven D point three (467D.3), subsection five (5), paragraph k, Code 1979, is amended to read as follows:
k. In Crawford county:

Township north	Range west	Sections
83	37	11 to 36 inclusive.
	38	23 to 26 inclusive, 34, 35, 36.
82	37	All.
	38	1 to 5 inclusive, 9 to 36 inclusive.
	39	13, 23 to 28 inclusive, [33] *30 to 36 inclusive.*

Sec. 13. Section four hundred sixty-seven D point three (467D.3), subsection five (5), paragraph l, Code 1979, is amended to read as follows:
l. In Shelby county:

Township north	Range west	Sections
81	37, 38	All.
	39	[1, 2, 3, 10 to 15 inclusive, 22 to 27 inclusive, 34, 35, 36] *1 to 5 inclusive, 7 to 36 inclusive.*
	40	*13, 23 to 26 inclusive, 35, 36.*
80	37, 38	All.
	39	[1 2, 3, 10 to 16 inclusive, 21 to 29 inclusive, 34, 35, 36] *All.*
	40	*1 to 4 inclusive, 8 to 17 inclusive, 19 to 36 inclusive.*
79	37, 38	All.
	39, *40*	[1, 2, 3, 10 to 16 inclusive, 21 to 28 inclusive, 32 to 36 inclusive] *All.*
78	37, 38, 39	All.
	40	[1, 2, 3, 10 to 15 inclusive, 21 to 28 inclusive, 32 to 36 inclusive] *All.*

[All territory within the corporate limits of the cities of Shelby, Tennant, and Westphalia, as such limits existed on January 1, 1969, shall be within the southern Iowa conservancy district, including the portions of such cities not within any of the sections of land listed in this paragraph.]

SEC. 14. Section four hundred sixty-seven D point three (467D.3), subsection five (5), paragraph m, Code 1979, is amended to read as follows:

m. In Pottawattamie county:

Township north	Range west	Sections
77	38, 39, 40	All.
	41, *42*, *43*	[25, 36] *All.*
	44	*1, 12, 13, 24, 25, 28 to 36 inclusive.*
76	38, 39, 40	All.
	41, *42*, *43*, *44*	[1, 11 to 15 inclusive, 21 to 29 inclusive, 32 to 36 inclusive] *All.*
75	38, 39, 40, 41	All.
	42, *43*, *44*	[13, 24, 25, 26, 35, 36] *All.*
74	38, 39, 40, 41	All.
	42, *43*, *44*	[1, 2, 11 to 14 inclusive, 23, 24, 25, 35, 36] *All.*

SEC. 15. Section four hundred sixty-seven D point three (467D.3), subsection five (5), paragraphs n and o, Code 1979, are amended by striking the paragraphs and adding the following new paragraph:

***New paragraph.* In Harrison county:**

Township north	Range west	Sections
80	41	25, 26, 34, 35, 36.
79	41	1, 2, 3, 10 to 16 inclusive, 21 to 29 inclusive, 31 to 36 inclusive.
	42	36.
78	41	All.
	42	1 to 5 inclusive, 7 to 36 inclusive.
	43	13, 15, 22 to 28 inclusive, 32 to 36 inclusive.

Sec. 16. Section four hundred sixty-seven D point three (467D.3), subsection six (6), paragraphs c and d, Code 1979, are amended by striking the paragraphs and adding the following new paragraph:

New paragraph. That portion of Harrison county not included in the southern Iowa conservancy district.

Sec. 17. Section four hundred sixty-seven A point thirteen (467A.13), Code 1979, is amended to read as follows:

467A.13. PURPOSE OF SUBDISTRICTS. Subdistricts of a soil conservation district may be formed as hereinafter provided for the purpose *purposes of cooperating with conservancy districts and* of carrying out watershed protection and flood prevention programs within the subdistrict but may not be formed solely for the purpose of establishing or taking over the operation of an existing drainage district.

Sec. 18. Section four hundred sixty-seven A point twenty-four (467A.24), unnumbered paragraph two (2), Code 1979, is amended to read as follows:

The amount of benefit appraised to each forty acres of land within the subdistrict shall be determined by the improvements within said subdistrict based upon the work plan as agreed upon by the subdistrict [and furnished by the United States soil conservation service.]

Sec. 19. Section four hundred sixty-seven D point nine (467D.9), Code 1979, is repealed.

TERRY E. BRANSTAD,
President of the Senate.
WILLIAM H. HARBOR,
Speaker of the House.

I hereby certify that this bill originated in the Senate and is known as Senate File 2357, Sixty-eighth General Assembly.

FRANK J. STORK,
Secretary of the Senate.

Approved ——, 1980.
ROBERT D. RAY,
Governor.

LEE COUNTY SOIL CONSERVATION DISTRICT,
Donnellson, Iowa.

To: Hon. Roger W. Jepsen.
Subject: Public hearing testimony.

In regards to your request for suggestions or information relative to your soil conservation hearings, I offer the following on behalf of the Lee County Soil Conservation District Commissioners.

1. Develop long range plans that are free of partisan politics in that conservation of our natural resources is not a political problem.
2. Develop governmental support of the accepted Resource Conservation Act as outlined in Summary of Appraisal, Parts I and II, and Program Report. This document contains nation wide opinions on the subject under discussion. We support this document.
3. Develop governmental support of the Iowa 5 year Resource Conservation Plan written to project Iowa's input to the National RCA program. We support this document.[1]
4. Develop governmental support of the Lee County Temporary Land Preservation Policy Commission developed by selected community leaders in Lee County. This document outlines the needs as recognized in this rural area. We support this document.
5. Develop governmental support to eliminate governmental agency overlap of disciplines as well as stressing need for such agencies to be more responsive to the public's feelings. Of particular note is the relationship between the Corps of Engineers and individuals and agencies on the Des Moines and Mississippi Rivers.

Sincerely,

MERLE HASENCLEVER,
Chairman.

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[1] See p. 229 for a reprint of the above-referred to document.

Preliminary Report, Lee County Temporary Land Preservation Policy Commission

PRESERVATION OF AG LAND FOR FOOD AND FIBER

Land is an intrinsic resource, necessary for all that man does. History records that the waste, abuse and misuse of land has significantly contributed to the downfall of formerly great and florious civilizations. Because former kings, rulers, leaders deemed themselves conquerors by habit, exploiters by design, their greed, lust, ambition and self-interest made no provision for foresight or planning for the common good or general welfare of the people or for future generations. As a result millions of human beings scattered around the globe have been sentenced to a desperate pursuit for daily substance, a physical life bordering on malnutrition, and all too often, a slow death by starvation.

Americans are repeating the error of the ancients. Early arrivals to these shores found a land breathtakingly beautiful and incredibly rich. There was such an abundance of everything that resources were thought to be inexhaustible. These early settlers, relieved of the European monarchial traditions, viewed themselves as "kings in their own right" and embarked upon a policy of exploitation and waste unparalleled in the history of the world. Vast hardwood forests were descimated; millions of acres of productive agricultural land were "farmed out" and abandoned; many species of wildlife were shot and trapped to the point of extinction; easily reached minerals were extracted with no thought given to full utilization or possible reclamation.

Today the mindless onslaught on our space and our life-sustaining resources goes on. The encroachment comes under the guise of different titles, in different forms, but the underlying motives remain the same—greed, self-interest, lust for power, "so-called" growth—with little thought given to those presently living or those yet unborn. Streams, rivers, lakes, and waterways become depositories for the wastes from our factories, cities and farms; the air harbors chemicals—spewed from smokestacks and mechanical exhausts—that are injurious to health; rich and unique farmland has fallen prey to the insatiable appetite of our modern day dragons—urban sprawl, super four-lane highways, shopping centers, parking lots, housing developments and airports.

Best estimates indicate that nationally between 2.5 and 3 million acres of cropland are converted each year to these other uses. Most is being replaced somehow—by clearing land or by plowing up grassland—but the trend foreshadows a decline in cropland.

But figures don't tell the whole story. Too often prime or even unique farmlands go into nonfarm developments. Thousands of acres of citrus groves in Florida and California, for example, are being converted to subdivisions. The cropland to replace these prime and unique soils comes from land that was planted to grass and trees 20, 30, or even 40 years ago because it was subject to severe erosion. To return this land to row crop production and productivity will require the installation of conservation practices—at the best difficult to accomplish—and the application of large amounts of fertilizer chemicals—in themselves a finite resource.

It is ironic and dangerously foolish that the economics of non-farm development dictate that highly productive, minimum hazard Class I, II, and III land be taken out of agriculture, while the economics of cattle and soybean production dictate that less productive, highly erosive Class IV, V, and VI land in grass and forests be cleared and plowed for crop production.

In the day's of Davy Crockett each individual's share of the nation's land came to more than 100 acres. The land base has remained the same but our numbers have increased to the point where today each person's share is 8 acres. Of that 8 acres about 1.75 acres feeds and clothes you and many others. A very large part of the 8 acres is irreversibly taken for uses that do not contribute to food and fiber production.

We are approaching a crisis situation. The public is becoming increasingly aware of the problems in land use. The questions now is: "What do we do?"

We could, of course, bury our heads in the sand and do nothing and allow events to sweep us away. We can decide to continue to allow the forces of the marketplace to determine land use or policy. We can agree to live with the injustices, the costs to society, the loss of efficiency in land use and the loss of low-dollar-value attributes such as beauty, open space, and wildlife. We can, in effect, ignore the need for a land use policy.

Or, we can prepare a policy for land use and then either fail to enforce it or to follow it.

The only viable alternative we have is to design the proper use of this common heritage and control that use for the benefit of ourselves and future generations. Openly, and with meaningful public input, we must consider all interests and alternatives, use all relevant facts, and develop a land use policy which would make intelligent use of the land and enforce that policy.

If agricutural land is to be preserved for the production of food and fiber then all units of local government—cities, counties, special districts—with responsibility for making decisions in regard to the use of land must have an up-to-date comprehensive plan.

The comprehensive plan should represent the future needs and aspirations of a community in the areas of economic growth, the severity of social problems, and the quality of the environment. Careful studies should be made so that guidelines and policy can be adopted which will be within the framework of state land use policy and state land use policy guidelines. Such a procedure would avoid a contradictory, inconsistent, and ineffective jumble of statewide county comprehensive plans.

To help assure such an integrated comprehensive plan within which all land use decisions will be consistent with county land use guidelines the county commission should have the authority to review all comprehensive plans, ordinances or regulations for land use recommended or being prepared by the county, special districts and cities within the county. A comprehensive plan or a modification of such plan or any ordinance or regulations relating to land use should not be adopted or become effective until approved by the county commission.

Such careful and coordinated planning studies would serve to put regulation in a positive framework. Regulations could then become meaningful, not in a restrictive sense entirely, but rather as a set of guidelines to protect public investments and the public financial capabilities, thus rendering the land to be developed on a rational basis with public and private interests in accord.

Once the comprehensive plan is completed and adopted land use decisions should be based on a soil survey. Soil facts, including texture, erodibility, permeability, slope, shrink-swell characteristics, depth to bedrock, stoniness, and flood hazard represent factual information which should be instrumental in determining the capability of the land for farmland, a road, industrial development, a home, recreation, or anything else.

To discourage "spread city" and to preserve and renew the urban core of the incorporated cities, development of all land within the city limits identified as vacant acreage by the comprehensive plan should be encouraged.

Land that has been annexed by cities to increase their geographical areas should be placed under a "timed development ordinance" which permits development only where adequate public facilities exist.

Land within the incorporated limits of cities used for the production of food and fiber should be declared agricultural districts and taxed in accordance with such use. No benefit assessment or special ad valorem levies should be imposed on this land but if the use should change to nonagriculture then a benefit assessment or special ad valorem levy should be imposed.

In cooperation with developers and planners local authorities should consider flexibility in their zoning requirements in order to accommodate innovative planning and building techniques. One such technique is cluster housing. This grouping of buildings on a specified minimum area releases a part of the area for open space, preserves existing environmental values, and provides a place for recreation or a park area.

A growing number of local governments are questioning the benefits of growth. It, therefore, behooves those cities contemplating boundary changes to involve all citizenry—especially those without a direct profit interest—in openly evaluating all available options. Other units of government which might be affected by the proposal should be included in the study. Sufficient lead time should be allowed to develop data and evaluate alternatives and the most accurate data possible should be developed on service costs and the best predictions on delivery dates.

The use of such regulatory techniques would help to avoid haphazard, precipitous development that ends up with homes, jobs, services and open space out of reach of one another. In addition government, planners, and the public would be afforded time to weigh and balance competing environmental, economic and social requirements and values and thus enhance well reasoned and knowledgeable decisions.

To protect and preserve agricultural land in rural areas outside the incorporated boundaries, county zoning and subdivision ordinances should be adopted as a necessary part of the county land use policy.

The objective of agricultural zoning should be twofold: (1) identify and seek to preserve prime agricultural land; (2) direct scattered residential development onto those poorer agricultural soils which could adequately handle such development. A working model of this type of agricultural zoning is to be found in Black Hawk County.

Other land preservation ideas which are coming into use and might work in harmony with agricultural zoning are: public and private land trusts, land banks, conservation or scenic easements, zoning farmland as agriculture industrial property to discourage residential development, increase inheritance tax exemptions.

Erosion must be abated and controlled on all land if we are to preserve the land and provide a healthful and safe environment. The Conservancy Districts Law of 1971 and the 208 section of Public Law 92-500 (Federal Water Pollution Control Act of 1972) should be coordinated in bringing about the installation of best management practices on the land. These practices, once determined, should be promoted by education, through incentives, and by penalities if it becomes necessary.

Funds should be made available at the Federal and State level to provide the increase in administrative staff, technical assistance, and incentive payments which will be necessary to implement and complete this work.

In projects that cross jurisdictional boundaries and the public interest becomes a regional interest the Regional Planning Commission and the Resource, Conservation and Development Agency (if applicable) should have the authority and responsibility to review the land use decision and make recommendations in accordance with the regional comprehensive plan. These local officials and citizens have a greater understanding of the problem and could better serve the public interest than the distant state level.

These bodies—Regional Planning Commission and RC&D's—could also serve as a data bank, or central library, where information could be assembled, cataloged and made quickly available for the use of those confronted with a land use decision. Another important function of these bodies would be to serve as coordinators to help breakdown the barriers of parochialism; to seek to eliminate waste and duplication; and to provide expertise for the counsel and guidance of local land use bodies.

EFFECT OF CURRENT LAWS ON LAND USE DECISIONS

Highway commission have made decisions using criteria that included the type of soil, the cost of construction, the mileage motorists would be required to drive, transportation needs, and the volume of traffic. Assuming land was unlimited, the criteria made some sense. With the realization that land resources are limited, should not land use for highways also consider farm lands, wooded areas, parks, and displacement of people?

The highway commission is but one example of the overriding impacts on the use of land created by Federal state and local governments through the exercise of regulatory controls, the use of eminent domain, taxation (property and income), subsidies, and the expenditure of public funds.

These activities by public bodies create the problem or inconsistency—not only among the various regulatory instruments themselves but also in the contradictory actions or government in the development process itself: zoning land for agricultural use, taxing it on the basis of potential residential use, cutting up parcels by building new highways, permitting strip development—thus conconfusing the local citizen and creating animosities and bitterness. Public regulation of land must be consistent with subsequent actions by the public.

To achieve consistency these units of government must coordinate their conflicting programs, plans and projects and operate within the confines of the comprehensive plan.

At the local level an amendment to the comprehensive plan should be required before a rezoning permit is issued. Instead of rendering decisions on a case-by-case basis the authorities should be required to prepare and record a statement of the reasons for all land use decisions. The granting of "special use permits" by boards of adjustment should come under the review and control of the planning and zoning commission or the city council.

To work toward consistency and to integrate, coordinate and facilitate the development and adoption of meaningful, enforceable comprehensive plans, ordinances and regulations pertaining to land use at the local level, the State Land Use Commission should:

Develop a statewide land inventory and compile land us data and projections to aid local governments in land use decisions.

Prepare and recommend to the general assembly a state land use policy and state land use policy guidelines for the guidance and direction of state agencies, county land use policy commissions, cities, counties, and special districts on matters relating to land use.

Prepare model zoning, subdivision or other ordinances and regulations to guide state agencies, cities, counties and special districts in implementing state and county land use policy guidelines.

Establish procedures for the review and approval of county land use policy guidelines.

Establish procedures for the review of comprehensive plans of cities, counties, and special districts which have been approved by the county commission.

Establish procedures for the review and approval of state agency comprehensive plan and plan modifications which should include the location of key facilities.

Recommend criteria for the designation of large scale developments.

Establish procedures for the hearing and determination of a petition by a state agency.

EXPECTED IMPACT OF ENERGY SUPPLIES ON THE USE OF LAND

With 6 percent of the world's population Americans consume one-third of the world's energy. This is an enormous quantity and the usage is increasing. It is projected that the U.S. stocks of oil and natural gas will be depleted by the year 2020. This creates a situation for alarm and presents a challenge which will test our willingness to make sacrifices and turn to a simpler less wasteful way of life.

The State Land Use Commission should give high priority to working with other units of government, departments and agencies to:

Prepare our waterways for intense and more sophisticated transport.

Encourage the use of minimum tillage tools in the preparation of seedbeds and the planting of crops.

Revive mass transit in our cities, interstate and intrastate.

Retain abandoned railroad right-of-way in the event this means of transport is revived.

Promote research to make available and usable the coal resources of the state as fuel sources.

Prepare a massive informational and educational program to alert the people to the inherent danger in such excessive use and waste of energy.

Revitalize the inner core of the city and renovate urban housing. This would encourage people to remain in the city and thus reduce commuter traffic.

Place a moratorium on highway construction until such time more efficient trucks and automobiles are produced.

PRIVATE PROPERTY RIGHTS

Generally speaking, the American has long held the assumption that he had the right to do with his property as he wished. He had the freedom of mobility; the right to monetary compensation for public restrictions of private property—even the right of self-determination. These premises stem from the concept of fee-simple ownership, which was especially in use in the United States in reaction to the traditions of serfdom that existed in Europe.

Today, as once plentiful land disappears, new voices are being heard reemphasizing values of interdependence and community. We are being reminded that responsibility for protecting the land and its resources goes alongside the right to own land—the stewardship concept.

Neither biblical reference or historical record support the assumption of one's absolute right in the use of land.

In Leviticus 25:23 God declares to His people "For the land is Mine, and you are but aliens who have become My tenants." This serves to remind us that land is sacred, indispensible to our well being and to God's plan for our growth and service in the Brotherhood of Man. It requires of us a sensitivity to care and makes it necessary that we be eternally responsible for how land is used.

Every culture speaks to this intrinsic relationship between man and nature. To the Indian every part of the earth was sacred. He was a part of the earth and it was a part of him. To spit upon the ground was to spit upon one's self. A Nigerian chieftain from Africa sumed it up this way, "I conceive that land belongs to a vast family of which many are dead, few are living, and countless numbers are unborn."

Thomas Jefferson held much the same view. He said, "While the farmer holds title to the land, actually it belongs to all the people because civilization itself rests upon the soil. Those who labor in the earth are the chosen people of God . . . whose breasts He had made His peculiar deposit for substantial and genuine virtue."

From our earliest beginnings the United States has always had public controls over the use of land. The thirteen colonies and, later, states, imposed strict controls on street design and layout and on iron mills, factories and the like. Courts later used the nuisance doctrine to uphold such restrictions.

The 10th Amendment of the United States Constitution gives the states what is referred to as the "police power". This is the inherent power of government to exercise reasonable control over persons and property in the interest of the general security, health, safety, morals and welfare.

Governments also have the power of eminent domain, the power to condemn and purchase private land for public purposes, such as highways, parks, urban renewal, and land banking.

Though public interest in land is assured with biblical reference and religious experience, cultural history, legislative enactment, and legal precedent established by court action, nothing in an act creating a land use policy should be construed to deprive a person of his property without just compensation and due process of law as guaranteed by the Fifth and Fourteenth Amendments of the Constitution of the United States and the Constitution of the State of Iowa.

We must come to view land use more as a matter of ethics than capital. To promote this respect for life, human dignity, and an ethical quality of living, the State Land Use Policy Commission should have the responsibility to provide information and educational programs. Through our existing institutions and communications media systems the goal of such programs should be to instill a land ethic with our citizenry which will bring a change in our intellectual emphasis, loyalties, affections and convictions.

Any county commission, city council, board of supervisors, special district, or person who believes that property rights are adversely affected or who establishes that a substantial public interest is adversely affected by a policy, guideline, comprehensive plan provision, action, decision, ordinance, or regulation relating to land use shall have the right to appeal for a review of the grievance.

Review proceedings should be based on the administrative record and the rules, procedures and regulations for the conduct of the proceedings will be in accordance to chapter seventeen A (17A) of the Code of the State of Iowa.

If desired, judicial review of an order by the state commission or the county land use commission may be sought in accordance with the provisions of chapter seventeen A (17A).

In an attempt to retain the family farm in areas of accelerated growth consideration should be given to the purchase of development rights of farmlands. Under this arrangement farmers retain physical ownership of the land but can not do anything but farm it. A developer would first have to buy land in an area zoned for development, then buy the development rights from the governmental authority which purchased those rights.

DESIGNATION OF CRITICAL AREAS

There is absolutely nothing wrong with using floodplains and unstable geological formations if simple principals of good land use are followed.

When a farmer misuses a floodplain, he may suffer crop failure, loss of livestock, and maybe, soil erosion. But he usually can charge the mistake up to experience, change his plans, and figure out a way to use the land profitably.

When people build homes, roads, schools, and businesses in floodplains, they create long term problems.

An example is the recent Johnstown Flood which cost 60 lives. The flood in 1889 drowned about 2,000 people. According to an Associated Press release there have been 27 major floods in Johnstown in this century.

Isn't it time that we recognize that it is not in our best interest to construct permanent improvements in these natural hazard lands? These lands should be reserved for farming, recreation and other uses compatible with the hazards involved and the State Land Use Policy Commission should recommend to the general assembly criteria for the designation of such lands as state critical areas. Criteria should also be recommended for the designation of key facilities and large scale developments.

Once a state permit area has been designated proposed projects for development or use of the area should be controlled by a planning and siting permit issued by a department and reviewed and approved by the State Land Use Commission.

In all areas that are fragile or that constitute natural hazard lands consideration should be given to designating such areas as conservation districts.

Architectural, historic and archaeological properties are fragile man-made resources which, like land, are threatened by uncontrolled growth and mis-use.

To protect and preserve these irreplaceable treasures the State Land Use Commission should adopt a common criteria and nomination procedure which conforms to the National Register of Historic Places for designating buildings, districts, structures, sites and objects.

Every feasible effort should be made to survey and map locations of historic architectural and archaeological resources. In granting siting or land use permits for a proposed development a condition of granting the permit should be that the project "will not have an adverse effect on scenic, historic, cultural, architectural or archaeological resources or rare and irreplaceable natural areas."

Minerals, along with food and wood products, provide the basis of the industrial structure and economic welfare for our state and nation. However, in contrast to food and wood products, minerals are unique, for they are fixed in location, quantity and quality, and they are nonrenewable.

The State Land Use Policy Commission should recommend criteria to the general assembly for the designation of mining operations as state permit areas.

The criteria should provide for current usage and for the preservation for development of any commercial sized mineral deposits both known and which may be discovered in the future. Provision should also be made for reclaiming the disturbed land and returning it to a productive use.

In organization consideration should be given toward the appointment of the State Geologist and a representative of the quarrying industry to the temporary state land preservation policy commission.

SOLID WASTE DISPOSAL

Landfill sites for the disposal of solid wastes are increasingly difficult to locate. Also the sanitary landfill method of waste disposal is expensive and is also using a possible source of much needed energy.

In devising an energy efficient and inexpensive method of solid waste disposal we need to consider waste incineration among other methods.

To conserve land and at the same time reclaim a product for yet another use the State Land Use Commission should encourage additional research for handling solid waste.

EXISTING LOCAL GOVERNMENTS COMPREHENSIVE PLANS, REGULATIONS AND POLICIES THAT HAVE IMPACT ON LAND

All too often existing comprehensive plans, regulations and ordinances are not followed creating unwise decisions in the use of land. The State Land Use Commission should recommend criteria for the development of comprehensive plans and develop procedures for review and implementation of those plans.

SITING OF FACILITIES

Industrial, commercial and other facilities provide necessary benefits to localities while at the same time cause problems which have to be addressed with the present and future interests of these same localities in mind. Some of these problems are:

Conversion of agricultural land.
Conflict with adjacent properties.
Environmental conflicts.

Strip and/or scattered development.

Density of facilities.

To minimize and control these problems the State Land Use Commission should develop criteria for the development of key facilities and large scale development. Agricultural zoning and the issuance of siting and use permits should be used to implement the criteria.

WATER SUPPLY

As needs for a potable water supply will be growing constantly, the sources from which this supply will be derived need to be monitored and steps taken to ensure it.

Since the water will be taken from both surface and underground sources, it would seem that the best way to provide a quality supply would be to give attention to the water where it first falls.

This attention would be in the form of conservation practices which are designed to keep as much of the water where it falls to minimize run off pollution.

Practices designed to allow a slow run-off of the excess rain which cannot be absorbed quickly are critical.

The basic causes for water siltation and pollution are as follows:

A. Agriculture runoff—
  1. Direct soil erosion caused by tillage,
  2. Pesticide pollution (rain before product has stabilized),
  3. Run-off from livestock raising and feeding areas,
  4. Fertilizer pollution which occurs before the application has been stabilized by incorporation into soil.
  5. Erosion of creek banks and like areas because of excess livestock traffic.

B. Land disturbed by construction—
  1. Public road construction,
  2. Private housing additions,
  3. Commercial roads to (factories, etc.).

C. Commercial waste into streams.

D. Land fill seepage.

Agriculture is the largest polluter of water in Iowa. It is suggested that a more vigorous program be instigated to bring the best conservation program to all agricultural lands in the state.

It is also suggested that herbicides should be incorporated into the soil when applied making it less subject to run-off.

Making tax credits available for land protected by the best conservation practices in its category might be a way to get a faster and more complete compliance.

Livestock raising is each year being moved more to close confinement and by doing so is helping eliminate this pollution source.

Primary road banks and waterways in the state are protected by grasses and legumes that minimize erosion.

County road ditches and banks are also stabilized in most places and contribute only small amounts of pollution.

Housing and commercial developments using a comprehensive plan and co-operating with the Soil Conservation Service could control the erosion which might occur and with landscaping could make the sites much more attractive and therefore more valuable.

Federal laws which restrict and or prohibit the dumping of polluting materials into streams must be maintained and enforced rigidly even though the cost is high.

The practicability of incinerating solid waste materials for salable power should continue to be researched in an effort to limit the needs for land fills and their water seepage potential.

GROWTH TRENDS

Population growth has been slow in Iowa and declining in some areas.

Where manufacturing and industrial jobs are available, population has been growing and the land areas needed for new housing sites and industrial parks is in demand.

It is considered necessary by some schools of thought that this growth be regulated by statutory regulation.

The following growth trends have been observed in Lee County:

A. How growth occurs—
  1. Growth within incorporated municipalities,

2. Unincorporated towns and villages,
3. Growth adjacent to incorporated municipalities,
4. Developments by private entrepreneurs,
5. Single home building usually purchased from unproductive farm areas.

B. Industrial growth trends—
1. Industrial and business growth and expansion within incorporated areas
2. Industrial and business growth in unincorporated villages
3. Industrial growth in industrial parks provided by municipality
4. Growth in unregulated agricultural areas

Municipalities have zoning ordinances which promote orderly growth of housing, business and manufacturing.

The unregulated areas however are subject to the hazards of poor planning.

It would be wise to observe the results of county planning in the eastern states that have addressed themselves to preserving their prime agricultural land.

New York State provides for agricultural districts whose organization is to be motivated by the farmers. The districts provide a reasonable assurance the farm can be used for such for periods of eight years after which the district's land is subject to review. Most of the land is also eligible for an agricultural value assessment. These districts are also designed to help prevent unregulated urban sprawl.

Iowa could use special assessments for various types of land use.

Unincorporated villages should be urged to enact a comprehensive plan for further development for sewage disposal as well as water supply.

Housing developments by private entrepreneurs should be required by law to provide a large enough area per unit for a satisfactory drain field that will be far enough from the water supply that it will not be polluted.

Private single home buildings should also be required to acquire enough area per unit so a satisfactory drain field can be constructed far enough from the water supply that it will not act as a polluting source.

Again it would be helpful if laws specifying that only lower grade land could be used for growth projects in unzoned areas. Then land suitable for production of foods and fiber could be saved for that purpose.

LARGE SCALE PRIVATE DEVELOPMENT

At the present time there are few restrictions on large scale private developments such as large subdivisions and industrial parks. In the past ten years 900–1,000 acres of land per year have been taken out of farms. Some of this land has been used in large scale private developments. There is growing concern that unregulated development will take more acres of farmland out of production each year. The most desirable location for large scale private developments is generally the top quality ag land because of lower construction costs.

The Commission concurs with the recommendation in the Lee County Comprehensive Plan, "There are eight incorporated areas in Lee County. These communities should provide the majority of land for commercial, industrial, residential, and intensive recreational uses. These types of land use need public services of a quality and quantity that only densely settled areas can provide." There are approximately 6,500 vacant acres within the incorporated areas of the county. Only a small percentage of this land would need to be used if the present rate of growth continues.

If it is not feasible for large scale private developments to locate within incorporated areas, they should be located on low-grade farm land. Although construction costs may be higher, it would help preserve our food-raising capacity for future generations.

Large scale private developments should be located on land of a suitable soil type using information in the Lee County Soil Survey as a guide.

These are several possible ways of achieving the desired regulation of large scale private developments.

1. County Zoning—this may not be effective because in some instances it is easy to rezone property.

2. Tax incentives to encourage development within city limits and discourage use of high grade farm land. The recently passed law on property tax recapture is a step in the right direction. Perhaps vacant areas within incorporated areas could be taxed at a higher rate—this would encourage development to these areas.

KEY PUBLIC FACILITIES

Included in key public facilities are major airports, major highway interchanges, major recreational land and facilities, major facilities for development, generation and transmission of energy, and educational facilities.

At the present time these facilities are under area of state regulation. Public hearings are generally held if changes in these facilities are proposed. Most of these facilities serve an area much larger than the county.

It is recommended that regulation of Key Facilities should be continued on an area, state, or federal level with local consultation. More emphasis should be placed on local consultation. It may be necessary to change the law on easements for pipelines, transmission lines, etc. so the property owner would have more rights. It should be determined that there is a definite need for these facilities before they are constructed since the process is generally irreversible.

IMPACT OF STATE AGENCIES ACTIVITIES ON THE USE OF LAND

Action of various state agencies such as D.O.T., D.E.Q., Natural Resource Council, Office for Planning and Programming, State Conservation Commission, Department of Soil Conservation and others are important to the use of many areas of land in the county. Examples of their impact include:

1. Highway relocation and construction,
2. Regulations for sewage treatment, water systems, air quality, etc.,
3. Location of large scale recreational facilities.

Many decisions by these various agencies are made without adequate local consultation. It is recommended that there be more local input into decisions by these agencies. They should work more closely with Regional and County Planning Commissions as well as groups and individuals affected by the various regulations. An attempt should be made to coordinate the activities of these agencies so they do not work at cross-purpose.

The many regulations and activities of these agencies could lead to a highly regimented society with an increasing number of rules and regulations. This may not be altogether bad in view of the complex world in which we live.

SEWAGE TREATMENT

This includes both rural home sewage disposal and municipal sewage treatment facilities.

At the present time municipal sewage treatment facilities are regulated as to the type and quantity of effluent they may discharge. Several of the cities have recently improved their treatment facilities and others plan to in the near future.

Septic tanks and lagoons are the primary methods of rural sewage treatment. There are sewage disposal regulations on new construction in rural areas administered by the County Board of Health.

An F.H.A. financed study of a county-wide sewage disposal system was conducted about ten years ago. The conclusion of this study was that the residential areas not served by municipal sewage treatment facilities are too widely scattered to provide an economical countywide system.

A number of sewage disposal systems in rural areas and small towns are presently a source of pollution because they are not working properly or not installed properly. If older rural residences are found to be a source of pollution, they should be made to meet the standards for new construction set up by the County Board of Health.

COORDINATION OF COUNTY TRANSPORTATION WITH STATE TRANSPORTATION SYSTEM

At the present time there are about 150 miles of roads in the county under state jurisdiction and over 700 miles under county jurisdiction.

The County Engineer and Board of Supervisors have the responsibility of insuring there is no duplication of roads in the county system with the state system.

As roads are built or relocated, they should use the minimum width right-of-way consistent with safety standards. Roads should also follow the existing route where possible so as not to use up additional land.

The Commission feels this is an area of minor concern and that the present system is handling the problem adequately.

SUMMARY

The misuse of farm land is the primary concern of the Commission. Scattered rural housing, industrial parks, highways, recreation areas, etc. all use up farm land. But perhaps the most serious loss of prime farm land is through soil loss from water and wind erosion. In it's original location, topsoil is perhaps our most precious natural resource. Once the soil has left its original location it becomes a pollutant.

The effect of land use decisions will be felt for many years to come. Once a housing development or industrial park has been built, it is likely to remain for many years. In just a few years, soil erosion can cause the loss of rich topsoil that took many, many years to form.

One cannot accurately predict the future. However, it would seem that as our population continues to grow, demand for food production will increase. Perhaps we as a society can no longer afford the luxury of scattered housing in the country or unregulated industrial development or uncontrolled soil erosion.

The choice would seem to be either plan for wise land use or risk hit and miss development. If the choice is to plan for wise land use, there must be rules and regulations. Individual freedom will be reduced. But this may be necessary in order to preserve our society.

STATEMENT OF PHILIP W. HUFF, FAIRFIELD, IOWA

This is a brief statement to the Senate Agriculture Subcommittee on Environment, Soil Conservation and Forestry Hearing in Fairfield, Iowa presided over by Senator Roger Jepsen.

My name is Phil Huff and my family and I reside in the Fairfield Area. I'm self employed in the Land Improvement Contracting business with bulldozers and was possibly responsible for some of the Tile Outlet Terraces you saw on your morning tour.

My first comment to the Subcommittee would be that present estimates of soil lost to water erosion are badly understated. In the course of our work building tile outlet terraces, we move a lot of toilsoil on widely separated farms in Jefferson and Van Buren counties. In almost no cases is there as much topsoil left to strip and stockpile as the soil maps would indicate or as the farmer would expect. There needs to be continued and increased emphasis on saving the topsoil for future generations through permanent soil conservation practices such as terraces. I feel that we as citizens may already be too late with our present rate of accomplishing conservation—there is much less topsoil left to conserve than anyone has any idea.

My second comment would be directed toward increasing the number of permanent practices applied to the land. Some form of crop acres setaside needs to be coordinated with the application of permanent practices. For example, payment for setaside could be made only if the approved practices for those acres were completed by October 1st of the calendar year. The setaside payment should be attractive enough that the emphasis would be to go ahead with approved conservation practices. The need for a coordinated diverted acres program is obvious when one compares the need for permanent practices with the time available for actual construction. (ie. before planting in the spring and after crop harvest in the fall) Summer construction on setaside acres is the only way the needs for permanent practices can be met even with the existing funding and technical assistance. There needs to be increases in the amount of tax dollars spent for permanent practices through existing programs: ACP and Rural Clean Water Program (208). Such programs have not kept pace with inflation and with the needs for protection of crop lands.

In summary, I feel that more (not less) emphasis needs to be placed on permanent conservation practices on crop lands. Increased tax money spent will benefit all citizens through cleaner water and through preservation of a very important resource—our farm land.

Thank you. Please let me know if you would like more information, a job site tour, or correspondence.

CANTRIL, IOWA, ***August 1, 1980.***

HON. ROGER W. JEPSEN,
U.S. Senator, Dirksen Senate Office Building, Washington, D.C.

DEAR SENATOR JEPSEN: You are to be commended for holding the hearings on environment, soil conservation and forestry in Iowa, and I am sorry that I could not participate in Fairfield August 15th as scheduled. The day before I was at a Water Quality Management Conference in Kansas City, and on the way a problem developed so I did not make it back in time; therefore I trust my written comments will be considered.

Soil conservation is of prime importance to me as a Century Farm owner and my interest can be documented by my activities as a member of the original Iowa citizens' committee on 208, point and non-point pollution and presently chairperson of the Statewide Policy Advisory Committee; am a member from its inception and past chairperson of the Pathfinders RC&D; am a drainage district trustee and have been since 1969; and am an assistant soil commissioner in Van Buren County.

Soil and water are two of our most precious assets, yet our modern civilization has not learned of the necessity of their conservation or we would have policies that insure the preservation of prime farmland, the restriction of urban sprawl, more stringent requirements for soil conservation and control of pollutants, proper forest management and systems to utilize our resources with integrity instead of greed. Granted, great strides have been made in some ways, yet in other ways these ideals seem to have been forgotten in the quest for the Almighty Dollar the last few decades.

All national and state programs need to be evaluated for resource use and land use impact and this concern carried through every layer of Government. The concern of the individual must be fostered to a greater degree by paying attention to his interests as well as those of big business.

Our agricultural production has, as you well know, provided an export capability of immeasurable benefit—yet, according to the increased price of oil the last decade, our prices have not kept pace. The Farmers are selling corn, for instance, for less than the cost of production. A recent suggestion for an organization of grain-producing nations to compel higher prices for grain from the well-to-do nations appears to have real merit.

Land use legislation has been discussed but never passed into law. This seems to be vital. Areas can be used for industry and housing that are not suitable for growing crops and inner city areas must be re-used. However, control should be local.

Soil conservation has been addressed through various programs but the job is not being accomplished—more appropriations are needed and maybe even more controls. One area of control sadly lacking is a requirement that once a practice has been installed, like a terrace, that it must be maintained for its expected useful life, and that, if it is not, the landowner must repay the Federal dollars used in its construction. At times when farms are sold the new owner (usually a big operator or corporation) takes a dozer to the land and tears out the terrace so he can bring in huge equipment. I resent part of my tax dollars being spent on an installation that is destroyed before its useful life expires, just for the convenience of the big operator, and by which destruction soil conservation is defeated and a resource depleted.

The family-sized farm, to me, is an important key in our country's prosperity. We all know one takes better care of what belongs to oneself and all farm programs should be designed with advantages to the smaller operator. Why have so many farm wives had to go off the farm for a job to help pay the bills? Most farms could provide opportunity for expansion and production of food and fiber. Other countries, like Holland and Israel, utilize every square foot of land. Many times I have heard farmers say they would not row-crop the marginal land if a livestock program were profitable.

The tax structure today does little to encourage the kind of farm ownership that made this country great. The farm owner today pays income taxes, death taxes, and property taxes. If an individual puts money in a bank or buys stock, etc., he escapes property taxes. They are all kinds of "property" yet the land-

owner is penalized with the extra tax—the property tax. As the budget pinch grows, more and more services have to be paid for by the property tax at the county level and it grows and grows at a far higher rate than inflation, and many times by services were started by Federal funds or are mandated by State and Federal Government regulations. These mandated services should never be required of the County Governments unless paid for by those Government agencies that mandated the service.

What incentive is there for the farm family to work hard to own its farm and try to pass it on to the children when this unfair tax situation exists? The so-called farm provision of the Tax Reform Act of 1978 and 1979 that provided for special use valuation of a farm does little to help either as the requirements and restrictions are such that many do not qualify who should, and then the restrictions place an unfair burden on the family.

Why can't farmland that has been owned by and operated at some time by the owner routinely qualify for a reduced valuation for death tax purposes up to a certain number of acres, say 1,000 acres. This would encourage more farm operation by owners, but yet let them qualify for relief, taxwise, even though they had been retired for several years and no one in the family had, as yet, been able to undertake the farm operation. Regulations could be devised to keep the hobby farmer from this benefit, but it could include long-time owners who were really farmers.

The repeal of the lifetime gift exclusion of $60,000 tax free was also a blow to the farmer as it had been one means of helping the young folks start farming and/or equalize the unfair tax burden on the landowner. Now, if gifts are made over $3,000 the tax consequences make it almost an impossible act—yet we well know intangible property is passed onto heirs constantly but no recording is made like a deed is necessary for land. Cash, diamonds, etc., can be passed on with no trace—no tax—even though supposedly they should be reported and taxed.

Money spent by the Federal Government on soil conservation has always been limited—yet the Government in all the Western states and Southern states has spent billions on irrigation projects. For instance, we traveled through Idaho 30 years ago when a concrete-lined irrigation channel was being constructed—large enough for a train to go through. This was to irrigate land that would not grow anything at all unless water were pumped on it, using expensive equipment and energy. Yet, here in Iowa, what has been done to provide protection for our stream banks where often tons of topsoil drop into the channel and wash to New Orleans? Cost-benefit rate is always cited as a reason no Government programs can assist to preserve the stream banks and save the soil that is here—soil that will grow lush crops without any irrigation channels, equipment, pumps, or use of scarce energy. Is that fair? And now I understand the large Western landowners want their irrigation rights increased—how can the tight budget stand that?

In Iowa the soil conservation money doesn't come near to treating but a portion of the areas needed. Iowa should receive as much for soil conservation per acre as the Western States receive for irrigation subsidies. Cost share should be increased for land treatment and set aside program kept, which will reserve fertility, benefit the supply and demand situation, and enable summer construction of terraces, etc. A grain embargo is not a desirable method of international diplomacy, in my opinion.

Why doesn't the Government plan a farm program to tie in land use to the program privileges? This seems to me that it would encourage conservation and any time we conserve the soil we help keep the water clean too. Farm programs should include a continuation of the present disaster provisions whereby the farmer has some protection in case a disaster occurs to his crops. If Chrysler, why not the farmer The crop insurance program, as now structured, does not take its place and needs complete revision before I will participate.

Farm programs are a must to help keep the smaller farmers afloat, but these should be structured so that huge farm participation is quite limited. Too often it leads to more bigness. Why not keep the farm unit small, promote expansion and use the family labor. The acreage allotment system was poorly conceived. After several years of crop acreage allotments there was no program in 1959 and 1960, so many farmers went out and plowed marginal land. Then the acreage allotments were installed again, using those years of 1959 and 1960 as base years—the same 2 years when all controls were off. What does this mean? It means the Government program rewarded the farmers who plowed up the hill! Those acreage figures have been used for years so the inequity has been repeated each and every year since 1961 and may still continue. Such inequities are not fair!

The 208 program on clean water and has had many beneficial aspects and the public participation portion has promoted good effects and hopefully will be continued. Let more of the affected people help plan programs! The public has a lot of expertise.

The RC&D area projects have also done much to enhance resource conservation and it is hoped that this will be continued; it utilizes many manhours at no cost when the public works together on a problem and effectively coordinates available Government and private programs.

Many of the social issues of today are popular and desirable, but let us not pay so much attention to them that we forget the future life-blood of all people—the ability of the soil and water to provide food for all peoples, black, white, yellow. What good to prevent wars or racism if our grandchildren have nothing to eat? Conservation of resources must be addressed more vigorously now!

We have a great country and my aim is to contribute what little I can to help America prosper, its people enjoy peace, and assure a safe and provident society for future generations.

Yours very truly

VIVIAN CRESWICK.

STATEMENT OF GEORGE GOLINGHORST, COMMISSIONER, SCOTT SOIL CONSERVATION DISTRICT, DAVENPORT, IOWA

Having been a Soil Conservation District Commissioner for about 20 years there are a few things I would like to review with you. A couple of years ago General Services Administration made a report telling of what a lousy job the Soil Conservation Service and the Soil Conservation Districts have done. Let's take a look at a few facts.

Fifteen years ago some of the practices were not the best, but on the other hand people will only progress as fast as they will accept progress. We also had pressure groups in Congress who did not want to change, because change would affect them financially.

In the 70's many changes have been made to the better. However, as I recall every time we had a change in administration in Washington one of the first things the new president would do is delete funding in his budget for cost-share programs through the A.S.C.S. But sooner or later Congress would put it back in the budget again, same figure as the year before. This did not let us expand a program or allow for inflation. The Soil Conservation Service was also tied to this budget for they received a small percentage of this amount for the technical assistance they gave to local districts. Because of inflation salaries had to be increased and technical assistance was cut considerably. About 5 or 6 years ago Congress passed an appropriation for A.S.C.S. cost-share program. The office of Budget and Management would not release the moneys, the following year it took an act of Congress to get the money released, plus the same amount was appropriated that year.

There was a young farmer in my district that asked for approval for 50 percent cost-share money to install terraces in the spring of the year, the project was approved, after the tile was laid it became apparent there was no cost-share money available. He had a right to be very unhappy, he told me and he also told his neighbors. The following year there was twice as much money available but he could not qualify. Now tell me how you can run a good voluntary program with a cut back on technical help, on again off again cost-share programs and contractors who became disgusted because they have no assurance on what our program may be like next year.

In 1972 Congress passed Bill 92-500 on the Clean Waters Act. A part of that bill was the Non-Point Sources Pollution Act which involved agriculture sediment run off. Millions of dollars have been pumped into this program to set up regional offices, office personnel, etc. In Iowa hundreds of man days have been donated by interested citizens in planning the program only to find there are no funds to implement the program.

About 3 years ago the Resource Conservation Act was passed—the purpose of this act as I saw it was to have the Soil Conservation Service give an accounting every 5 years to the Congress and the public as to where we stand with preserving our soil and water resource. This would include how many acres are protected, what our accomplishments have been in the previous 5 years, and what the needs are in the future. In my opinion a good act.

At a recent Soil Conservation Conference I heard a District leader say with the RCA Act wet must come up with a new exciting, dynamic program. It seems to me we have all the programs we can digest now. In the past it hasn't been to difficult to get money to get up and man new programs but when it comes to applying them to land then Congress tightens up on funding and does not fulfill their responsibilities.

We have had some excellent programs in existence for 15 or more years and farmers were willing to invest some of their own money to implement them. I often think of a watershed meeting I attended with Bill Brune our State Conservationist some years ago. It involved the people in four townships in southern Iowa. We toured the area and saw what the needs of the land were. I recall stopping on a bridge that was probably 150′ long. We looked over the edge into a trickle of water and yet the banks on this creek or river, I really don't know what to call it, were probably 100′+apart and from 6–8 feet deep. Logic only told me that at certain times of the year the turbulence and soil carrying capacity of this stream must be unreal. Later we met with these people and discussed a Watershed program with them. The public attendance and interest was high. The program included a lot of upland treatment such as contouring, stripcropping, terraces, and several large water retaining structures. The people were willing to do something, but there was no money.

The land was crying for help and the expression on the peoples faces were the same, but to this day I doubt if much has been done.

To this point I have told you only of doom and gloom, but fortunately something is being done. I am very proud to be a citizen from Iowa in regard to a Soil Conservation program. Our Governor and members of the General Assembly and it's citizens have a positive attitude. In Scott county the Soil Conservation District receives $35,000 a year from the County Board of Supervisors. This certainly expresses the attitude of the urban people toward conserving this resource.

When I step back and take a look at the total program I feel the job ahead is too big and costly for state government, local people or farmers to handle alone. About 6 years ago it was estimated that it would take 2 billion dollars worth of land treatment to control land erosion in Iowa. Today because of inflation that cost has doubled or tripled.

Some people are saying that the installation of permanent practices are too expensive for the cost-share portion of the individual farmer. I agree, in the past there has been limitations on the dollars spent on a single project, because of all the hassel involved in getting a contractor to come back at a later date the owner would pay the bill just to get the job completed. He also donated his labor, equipment, and certain percentage of his crop. In total maybe he only received less than 40 percent cost-share. I believe the cost-share on permanent practices should be increased. To me permanent practices are a capital improvement and will pay dividends to your people for the life of this nation. Because every citizen benefits from this high productive land, it becomes the responsibility of our Federal Government. Not only for food and fiber, but because of our export markets, which in turn supports the buying power of the dollar. Our standard of living will only deteriorate if we lose it. While there are vast amounts of fertile land in the world we must remember that we are blessed by having so much of it lying within the temperate zone. As a rule we have proper rainfall, enough heat units to produce a crop and subsoil that can hold moisture until the crop needs it in dry periods.

If you gave me the opportunity to get priority as to where the first dollars was to be spent I suppose I would spend it on research. In the area of tillage and planting research, insect and disease control, and the one item that farmers are concerned about is weed and grass control, herbicides do not perform the same year after year and we must know why.

I fear that we are running out of time, with half of our soil gone and I think it's the best half, we must find some method to slow down the rate of soil loss until we get other water management treatments applied.

Ladies and Gentlemen while I could probaly ramble on and on I want to thank you for the opportunity you have given me to speak.

Let's put the emphasis on land.

STATEMENT OF HOWARD D. BOHR, WELLMAN, IOWA

Washington County has approximately 85 percent of the land area in row crop production. This intensive style of farming, pushed by our farm programs and farm economics, has nearly reduced its limit.

We cannot go on farming fence row to fence row while losing millions of tons of topsoil each year. It is not the lack of morals or farmer concern that has caused this severe erosion problem, but the lack of money made available to the farmer through local governmental agencies to meet our soil conservation needs. In Washington County the amount of cost-share assistance requested by local farmers has doubled and sometimes tripled the allocation made available to the conservation district.

With the county conservation program being increased yearly, the assistance is having to be spread thinner and thinner. The need to take a hard look at the soil conservation policies and programs is very evident.

If the existing level of cooperation between farmers and the local soil conservation districts is to be maintained, the current programs must be increased and redirected towards the needs of today's farmers.

Increasing the present program with both money and personnel will naturally put more conservation on the land, resulting in a highly needed but not total answer. In many situations the need for conservation is there but the economic incentives are not.

Two new incentive programs that have been receiving recognition within Washington County deal with low interest loans and investment credit on conservation practices, both of which can be applied rather easily to support the great need for soil conservation in our county, state and nation.

In the economic times we are having today, it is difficult for our young farmers to become established in farming. It is even more difficult for these young farmers, as well as individuals already in farming, to protect the very thing they strive to use to make a living. They need the kind of financial credit incentive to maintain their farm's productivity to feed their children and the children of the world.

Our farm programs and present tax incentives have not helped get conservation on the land. My fellow farmers believe in doing conservation but the economic incentives are there if they do not. Therefore, a high rate of investment credit for long term conservation practices would turn around the economic incentives in favor of doing conservation.

These programs will have a great effect on the farmers' ability to apply conservation practices on their farms.

The availability of increased cost-share funds, along with these new incentives, will help the farmers economically fight the battle against soil erosion.

[The following material was submitted by Senator Jepsen.]

[Reprinted from the Congressional Record, Sept. 15, 1980]

GENERAL STATEMENT OF POLICY

Agriculture is the foundation of Iowa's economy. That foundation is currently being underminded by critical excessive erosion of the topsoil in the state. Thus it is in the best interest of both the present and future generations to promptly control soil erosion in Iowa. Moreover, control of nonpoint source pollution (i.e., pollution attributable to run-off from large areas rather than to specific points, such as sewage treatment plants) of the state's rivers and lakes can be largely achieved by proper soil conservation techniques. It should therefore be the policy of the state of Iowa to:

A. Provide education at all levels. Education is a vital tool in building awareness of the importance and understanding of the methods of conserving soil.

B. Provide incentives for good soil management. These incentives may include, but are not limited to, public cost-sharing, low-interest loan funds, and tax credits or tax exemptions to encourage the installation of effective soil conservation practices.

C. Provide technical assistance. Technical assistance should be provided, within budgetary limits, to develop conservation folders (i.e., compilations of information needed to draw up conservation plans) and to prepare plans for the installation of conservation measures for each farm unit in Iowa.

D. Control soil erosion by the year 2000. Erosion of topsoil from all land within the borders of the state of Iowa should be controlled by the year 2000 to the extent necessary to meet applicable soil loss limits which have been established by the respective soil conservation districts under existing law.

GOALS BASED ON THE STATEMENT OF POLICY

A. Five-year objectives:

1. To accelerate the availability of soil survey mapping data.

2. To provide each farm unit with a conservation folder by 1985.

3. To control erosion of the most fragile soils, which under present agricultural use and management will be depleted in 20 years.

4. To reduce excessive soil erosion on all agricultural lands by 40 percent.

5. To control nonpoint source pollution in at least twelve high priority watersheds, based on the Iowa agricultural nonpoint source pollution plan.

B. Ten-year objectives:

1. To require each landowner or operator to keep his or her conservation folder current with computed soil loss rates provided by the local soil conservation district.

2. To control erosion on soil which under present agricultural use and management will be depleted in 40 years.

3. To reduce excessive soil erosion on all agricultural lands by an additional 40 percent.

4. To control nonpoint source pollution in at least an additional twenty-four high priority watersheds, based on the Iowa agricultural nonpoint source pollution plan.

C. Fifteen-year objectives:

1. To control erosion on all agricultural land at a nondepleting level.

2. To control nonpoint source pollution in at least an additional fifty high priority watersheds, based on the Iowa agricultural nonpoint source pollution plan.

D. Twenty-year objectives:

1. To maintain a nondepleting level of soil loss on agricultural land and control sediment production on all Iowa land.

2. To continue to develop and install cost effective soil conservation practices so that soil erosion is held at a nondepleting level.

3. To control nonpoint source pollution in all watersheds, based on the agricultural nonpoint pollution plan.

LEGISLATIVE RECOMMENDATIONS

1. An interagency committee should be established by the Department of Soil Conservation to prepare plans for coordinated approaches to water management problems that are within the common jurisdiction of two or more state or local agencies, particularly the control of water flowing into, across and from roadside ditches. The committee should consist of one representative each from the Department of Soil Conservation, the Department of Environmental Quality, the Department of Transportation, the state Department of Agriculture, the Iowa Natural Resources Council, county supervisors, county engineers and soil conservation district commissioners.

2. At present, a landowner who receives public cost-sharing money for establishment of permanent soil conservation practices must agree to return that money if the practices are removed or downgraded within ten years from their establishment, without the consent of the State Soil Conservation Committee. The Subcommittee recommends that:

a. The ten-year limit on the obligation to maintain permanent soil conservation practices that are partially publicly funded be removed, and the obligation made one of indefinite duration.

b. The authority to consent to removal or alteration of a publicly-funded permanent practice be vested in the local soil conservation district commissioners, following State Soil Conservation Committee guidelines.

c. Recording of the agreement to maintain publicly-funded permanent practices be required, so that the obligation to maintain the practices—and the monetary penalty for failure to do so—will transfer to a new owner when title to the land involved changes.

3. The Department of Soil Conservation, acting through local soil conservation district commissioners, should be authorized to enter into long-term agreements with landowners, for periods of up to five years, in order to encourage and facilitate completion of permanent soil conservation practices on entire farms or on adjoining groups of farms.

4. It should be a duty of soil conservation districts to encourage and assist local school districts to provide instruction in the importance of and some of the basic methods of soil conservation, pursuant to the requirements of Code section 257.25(3) and (4) that elementary and secondary schools in Iowa teach science courses "including conservation of natural resources and environmental awareness".

5. The soil conservation legislation enacted in 1971 should be amended to remove any possible doubt that state agencies, political subdivisions of the state, and agencies of such political subdivisions which have control of publicly-owned lands have the same responsibility as private landowners to control soil erosion so as to comply with the applicable local soil loss limits.

6. Soil conservation district commissioners should be authorized to initiate an inspection of land when they have reasonable grounds to believe that excessive soil erosion is occurring on that land, without the necessity of receiving a complaint from a person whose property is being damaged by sediment due to the erosion. Also, such a person should be permitted the option of making a complaint verbally rather than in writing, provided the commissioners know and make a record of the complainants identity.

7. Chapter 467A of the Code should be amended to provide that:

a. Each farm in the state shall be furnished a "conservation folder" (a compilation of topographic, agronomic, soil loss rate and other information pertinent to soil conservation efforts) by the Department of Soil Conservation not later than January 1, 1985, or as soon thereafter as adequate funds are available.

b. It is the obligation of the owner or operator of each farm in this state to work out with the local soil conservation district commissioners a farm unit soil conservation plan for that farm, not later than January 1, 1990 or five years after the conservation folder for that farm is completed, whichever date is later.

c. It is the obligation of the owner or operator of each farm in this state to enter into a conservation agreement with the soil conservation district commissioners, binding the owner or operator to comply with the applicable soil loss limits on condition of receiving from the soil conservation district appropriate technical and financial assistance, within a reasonable time after completion of the farm unit conservation plan for that farm.

8. Chapter 467A of the Code should be amended to provided that beginning January 1, 1990 (or five years after the conservation folder contemplated by paragraph a of recommendation 7 is completed for the farm in question, whichever date is later) an owner or operator of agricultural land who has received notice from local soil conservation district commissioners for three or more consecutive years that soil is eroding from that land at a rate at least twice the nondepleting level, shall be subject to an order to follow a conservation plan developed for that land. If the owner or operator has previously reached agreement with the local soil conservation district commissioners on a farm unit conservation plan, as contemplated by paragraph b of recommendation 7, the order would direct that that plan be followed; otherwise the plan would be developed by the soil conservation district commissioners on the basis of Department of Soil Conservation guidelines. This recommended provision differs from the administrative order procedure prescribed in law at present, in that it will not be necessary under the recommended provision for the soil conservation district commissioners to show that the excessive erosion from the owner or operator's land is resulting in damage to another person's property, in order to obtain an order requiring that the erosion be controlled.

9. Chapter 467A of the Code should be amended to require that a seller of agricultural land furnish to a prospective buyer:

a. A copy of the conservation folder for that land, if one has been completed as contemplated by paragraph a of recommendation 7.

b. Documents fully and accurately describing both:

(1) All existing permanent soil conservation practices which the owner of that land is obligated to maintain, as contemplated by recommendation 2; and

(2) Any additional practices likely to be required in order to comply with applicable soil loss limits, and any changes in current or recent cropping methods

used on that land which will be necessary in order to establish the additional soil conservation practices.

10. Legislation should be enacted under which each of the 100 soil conservation districts in Iowa (each county constitutes a district except Pottawattamie County, which is divided into two districts) is designated a state agency, for the limited purpose of possible tort claim actions against the district, its officers or any employees. The Attorney General has advised the Department of Soil Conservation that local soil conservation districts are legally "municipalities" (i.e., political subdivisions of the state, broadly comparable to counties, cities or school districts), and that therefore officers and employees of such a district are subject to tort claim actions but are theoretically entitled to be indemnified by the district if held liable. However there are in fact no funds available to a soil conservation district to indemnify a commissioner or employee in such a case, and soil conservation district commissioners—who are unpaid officers—are therefore at some risk of having a judgment placed against their personal assets should they be held liable in a tort claim action.

The Subcommittee concluded, after hearing a presentation by members of the Attorney General's staff, that the best way of resolving this situation is to make the soil conservation districts state agencies for this one limited purpose. This step appears quite appropriate since these districts are already unique among municipalities in Iowa in that they are entitled by section 467A.6 of the Code to call upon the Attorney General for legal services.

12. A special 60 percent cost-sharing rate should be authorized for establishment of permanent soil conservation practices on agricultural land located in watersheds assigned high priority, on the basis of soil fragility, by conservancy district boards. However, this special participation rate should be available only in a priority watershed where owners of at least 65 percent of the land in that watershed have signed agreements to establish and maintain such practices. The special participation rate should be available in the context of long-term agreements, as contemplated by recommendation 3.

13. The Department of Soil Conservation should be authorized if adequate funding is provided, to increase the number of qualified technical personnel available to help implement the "Iowa Soil 2000" goal, described in this report, by not more than 15 full-time equivalent positions per year for each of the next five fiscal years.

14. The Department of Soil Conservation should be authorized to initiate a program under which limited set-aside payments can be made to farmers on a per-acre basis, for the purposes of holding land out of production for one season or delaying planting so as to allow construction of terraces and establishment of other permanent soil conservation practices during the spring and summer months.

15. Iowa State University's Cooperative Extension Service should begin immediately to collect, assemble, publish and disseminate data available from Iowa farm operators who are currently using conservation tillage methods.

STATEMENT OF OSCAR E. STEELE, RIVERSIDE, IOWA, AND JACK ERWIN, CRAWFORDSVILLE, IOWA

Today we are faced with an awesome challenge in Soil Conservation. A challenge that is economic, social and even moral in nature. The data about our soil resource conditions and what remains for our future generations cause both awe and fear.

We believe our present programs with their limitations and flaws have worked, but have not kept pace. The economics of our technological advancements and United States farm programs have hindered and eroded the very resource we strive to maintain. This problem is not new, but it has become "critical". Society and its methods have changed and at an economic rate faster than our conservation programs. We must address ourselves to several changes, both new and old, in order to adapt our soil conservation programs to meet the challenges of protecting our remaining topsoil, before time runs out.

The future of our nation's resource base "the Soil" must receive a higher national priority if we are to maintain soil and water for future food and fiber production, protect our national security, overcome inflation and meet our long term resource objectives. All indications are for continued national growth. In addition to the growth in population is a more substantial growth in the demand for food and fiber. Production of food and fiber that has been declining in its increasing rate. This is due, in part, to the depletion of our resource base caused by erosion of soil from wind and water.

To be more effective our present programs must be expanded in both dollars and people. Inflation has dealt a staggering blow to our existing programs, locally and nationally. In 1970 Agricultural Conservation Program (ACP) funds were $177,000,000. Today, ten years later, they are about $194,000,000. On the surface a 9.6 percent increase but in actuality, those 1970 dollars at today's inflated rate would have been 364.3 million dollars. In reality, therefore, today's rate of ACP funds are only 53 percent of the 1970 allocation. More frustrating is the value of dollars originally allocated to ACP. Their 1980 equivalent dollars would have been 3.5 billion dollars. This is a sad and almost immeasurable quantity of the ACP's original intent.

In our district the RCA data shows a need for 2.9 million dollars annually to meet and overcome the depletion of our resource base. Combined federal and state technical and financial assistance available to our district today is approximately 225,000 dollars. This is only 7.8 percent of the needed rate.

We have seen a dramatic increase in the demand for technical help and financial help in our district. As an example, in 1967, after all federal and state funds were allocated, there remained 56 requests for financial help at the rate of $53,000. By 1979 this demand had exceeded 115 requests and $249,000.

Our RCA response received locally showed 100 percent of both rural and urban people felt soil erosion by wind and water was a serious problem in our county. National RCA summaries indicate a parallel view of our country's erosion problems.

The Louis Harris & Associated Poll conducted in October and November 1979 verify these results. This poll shows two of every three people interviewed feel we should move toward being a country (1) "that saves its resources to benefit future generations rather than using them to benefit the present generation", (2) "that conserves the national productivity of the soil . . .", (3) "that meets its energy needs through more conservation rather than production", (4) "that believes protecting the environment is more important than economic growth". More evident of the public's concern for protecting the resource base is shown by "public priority for spending on soil and water conservation programs". The Harris Poll showed a 77 percent majority of the American people feel we have not reached a point in soil and water conservation efforts where we need to be concerned about holding down the federal government spending on conservation programs.

The land inventory and monitoring study for our district shows 60,000 acres of land in the next 50 years will have lost its topsoil and an additional 151,000 acres will be depleted in the following 50 years. That amounts to 16.5 percent of our district's land in fifty years and 58 percent one hundred years from today. University of Missouri and Iowa State University studies indicate on soils similar to our county where erosion has removed the topsoil and depleted the resource base an approximate 60 percent reduction in the land's ability to produce. This dramatic decrease is after the nutrients, the selected hybrids and a high level technology has been applied. What we face is, in fact, a crisis of "time" in order to maintain food and fiber production for our future generations. The demand for technical help from our landusers has grown more than fivefold in the last six years and yet when we look at our Soil Conservation Service technical help available to all soil conservation districts and we see their manpower reduced from 14,528 in 1970 to 13,100 in 1980. This may only be a cut of 10 percent but we cannot meet these awesome conservation needs in the face of a "time crisis" without the needed trained conservation staff personnel.

Besides expanding the existing programs there must also be a redirection in the program approach. National RCA data shows our "Cornbelt" region of Iowa, Missouri, Illinois, Indiana and Ohio to have one-tenth, or 139,800,000 acres, of the nation's food and fiber producing land. This same land also makes up nearly one-fourth, or 81,000,000 acres, of our nation's prime farm land. Because of this rich abundance of soil and the farm economics these lands are very intensively farmed. This intensity has placed sloping erosive soils under rowcrop production causing severe erosion. Conversely these "Cornbelt" states have approximately one-third, or 41,900,000 acres, of our country's land with soil erosion above five ton per acre per year soil loss. Even more staggering is the fact that nearly one-third or 13.0 million of the Cornbelt states' land having over 5 ton soil loss are in the State of Iowa. Our own district suffers from some 208,000 acres above the soil loss limit. This is approximately 62 percent of our food and fiber producing lands. When we compare these staggering figures of soil depletion to the time remaining under present conditions before a depleted resource base, add in a continued forecast for a strong growth in the demand for food and fiber, one finds a critical demand to direct our national financial and technical soil conservation programs proportionate to those states' needs for soil erosion control. Today's national budget of all programs relating to soil conservation make up barely more than one-tenth of 1 percent of the national budget. In colloquialized terms that is but a "drop in the bucket".

Federal programs must also look at state's long term soil erosion control objectives and laws. Iowa's recently passed "Iowa 2000 Law" or House File 2561 required many things of our local units of government, the Soil Conservation Districts. Besides granting to the locally elected soil conservation commissioners, (1) the discretionary inspection of any lands within the district on which they have reasonable grounds to believe that soil erosion is occurring in excess of established limits, (2) the notification of required property owner or occupant of sediment damage, (3) the action to take corrective measures if such actions are deemed necessary, (4) the encouragement and technical assistance to local school districts to provide instructions in the importance of some basic methods in soil conservation, (5) incentive payments to encourage summer construction of permanent conservation practices, it also requires a ten-year strategy for the furnishing of a conservation folder and the preparation of a soil conservation plan for each farm unit in the districts of the state.

These conservation folders shall contain photos and information concerning topography, soil composition, and interpretative information that allows the individual to assess his general soil loss in tons per acre per year. It also supplies to that individual a copy of the soil loss regulations and their explanation so that each farm unit owner may compare his soil loss to the soil loss limit regulations. Also provided in the folder are alternative practices necessary to meet the soil erosion control needs, and economics of those conservation alternatives in crop production. This folder gives the landowner basic information and data to make good soil conservation decisions.

Within five years after the completion of a conservation folder for a particular farm unit the law requires a soil conservation plan to be developed that identifies those permanent and temporary soil and water conservation practices to be used which will prevent soil loss by erosion in excess of the applicable soil loss limits.

Within a year after the development of a conservation plan for a particular farm unit the landowner shall enter into a conservation agreement to carry out those items identified in the conservation plan or no cost-share funds will be made available for that farm unit.

Our federal programs must be directed to meet these increased demands for technical and financial assistance in our districts if we are to meet the "Iowa 2000" goals for soil conservation.

Taking a more serious look at one of the major financial assistance programs on soil conservation, the Agriculture Conservation Program (ACP) we find that in the 1978 program year $190 million were allocated but of that only $90 million were cost-shared for permanent erosion control practices. We must have a national cost-share effort that directs its entire program to the establishment of enduring long term practices that directly benefit the control of soil erosion.

This federally funded incentive program to individual landowners has been the government's mainstay in the attempt to get farmers to install expensive permanent practices. Two problems exist in the effective use of the cost-share funds provided in this program. First of all, the ACP allocation is but a very minor portion of the Agriculture and Stabilization Conservation Service budget, therefore it receives less than adequate attention and has not been consistent with the long term strategies and objectives of the locally elected soil conservation district commissioners' programs. The control of soil erosion is the mainstay objective of all local conservation districts, therefore greater effectiveness could be received if this federally financed assistance program, the Agricultural Conservation Program, were directed as grants-in-aid to state soil conservation agencies for use by local Soil Conservation Districts. This type of redirected federal support would parallel and help locally elected district officials carry out their assigned responsibilities under state laws in soil conservation, water pollution prevention, sediment control and technical assistance in maintaining our resource base, "the Soil".

Another federal financial program which has become misguided because of the personal wishes of a few in Congress is the Rural Clean Water Program. The program direction must return conservation districts as the lead management agency and they must be responsible for administering funds at the local level. This nation cannot endure the devastating effects on soil conservation because of the personalities of a few select Congressmen.

The need to redirect these programs is supported by the Harris Poll in "public priorities for federal spending on soil and water conservation programs". It shows that five out of six people feel that it is proper for the federal government to grant money to farmers and other landusers so they can protect soil and water.

As we look at these staggering conservation needs once again the Harris Poll finds that the public accepts "needs" as an important criteria in the allocation of soil conservation money. It shows (1) "two out of every three people or 68 percent feel that financial need should be a criteria for receiving governmental assistance", (2) a substantial majority (59 percent) feel that only those who practice enduring soil conservation measures should receive financial assistance.

As we look at soil conservation needs, compare some of the existing federal financial programs of the different governmental departments to soil conservation programs and it becomes evident why the public wants a higher priority on soil and water conservation.

In the 1979 program year the East Central Iowa Council of Governments saw 144 million federal dollars pass through their six-county area. Compare that figure to only $655,000 in state and federal cost-share monies for soil conservation and you find soil conservation receiving less than one-half of 1 percent. For point-source pollution control they saw 44 million dollars versus $655,000 for non-point pollution control (soil conservation). Even more ironic was the 2.1 million dollars spent for parks and recreation. It would seem that we care more about a place to play than maintaining our resource base for food and fiber production not only for ourselves, but more importantly, for our children and our children's children.

Now to turn our attention to two new approaches needed to change the economic incentives in favor of soil conservation. These programs are low interest loans for soil conservation and investment credit for soil conservation. These programs would be in addition to those previously mentioned.

First, are the low interest loans. These loans would be available through regular lending institutions such as banks. Production Credit Associations and Federal Land Banks. The funds would be at half the going interest rate and available to the lending institutions regular customers. (Those individuals who do not have sufficient credit to qualify for this program can presently obtain funds under a similar program from the Farmers Home Administration.) Interest on these loans would be adjustable yearly depending on the going rate at that time. The federal government would subsidize the remaining half of the interest rate and make payment for such at the end of each year directly to the local lending institution. This payment would be made after a billing from the local lending institution and certified by the soil conservation district.

The funds loaned would be for permanent, structural and non-structural soil conservation practices that have been approved by the soil conservation district. Practices to be completed must meet Soil Conservation Service design standards and specifications. An example of these practices would be: terraces, water and sediment control basins, grassed waterways, debris basins, grade stabilization structures, diversion terraces, critical erosion area plantings, field windbreaks, tree plantings, permanent (10 yr) pasture plantings for land use conversions to pastureland, tree plantings and wildlife upland and wetland plantings.

The amount of funds loaned would be based on the actual cost of establishing the practice by the individual landowner. To aid the lending institution in setting up this one to ten year loan program, the individual could obtain an estimate of the quantity and cost from the soil conservation district. The actual amount of the practice and the eligible cost would be certified to the lending institution by the Soil Conservation District after completion of the practice. Only those practices that have been satisfactorily completed would be eligible for the loan. This amount would exclude any funds cost-shared by the local, state and federal cost-shared monies. This approach would be similar to the process used under "Iowa's State Cost Share Program".

Second, is the modification of investment credit. This modification in our income tax law would allow for investment credit on permanent structural soil conservation and erosion control practices. Soil conserving practices such as the following would be eligible: terraces, water and sediment control basins, grassed waterways, debris basins, grade stabilization structures, and diversion terraces.

To be effective in stimulating the application of soil conservation practices an investment credit rate of 75 percent would need to be adopted on the actual cost incurred by the individual. An individual would be eligible to claim investment credit on soil conservation practices approved by the soil conservation district and meeting SCS design standards and specifications. The soil conservation district could certify the amount of practice completed to these standards and the actual cost incurred for the landowner and IRS use. This procedure would be similar to "Iowa's tax exemption on large water impoundment reservoir." The amount of actual funds eligible would exclude any cost-share monies received from local, state or federal agencies as part of the landowners conservation project.

Eligible investment credit amounts not use in a specific year could be applied to carry-overs and carrybacks similar to the existing investment credit regulations. The remaining 25 percent not eligible for investment credit would then be eligible for standard depreciation.

This investment credit rate would make the program competitive with the existing local, federal and state cost-share programs. What is significant is that it does not require large annual appropriations to meet our staggering conservation needs.

Again the Louis Harris Poll supports these two recommendations of loans and investment credit. It says: "The public sees conservation as an area of joint public and private responsibility. Neither the owner's property rights nor the government's claim of public interest is regarded as exclusively paramount. Rather, the public would prefer conservation strategies that involve a partnership between the government and the farmer, based upon their mutual interest in soil and water conservation".

The survey notes "(1) a program of loans and other financial help to farmers who volunteer to protect their water and soil is viewed as fair to both partners by 71 percent of the public. Likewise, this approach is favored over others as the best way to attain soil conservation goals by 35 percent of the public. (2) farmers and other landowners who take good care of their land would be permitted to pay lower taxes than those who don't. This was judged to be an equitable and fair system approach to financing soil and water conservation programs by 41 percent of the public".

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